REPORT NUMBER: 208-MGA-2005-014

VEHICLE SAFETY COMPLIANCE TESTING
FOR
FMVSS 208, OCCUPANT CRASH PROTECTION
FMVSS 212, WINDSHIELD MOUNTING
FMVSS 219, WINSHIELD INTRUSION (PARTIAL)
FMVSS 301, FUEL SYSTEM INTEGRITY

Toyota Motor Corporation
2005 Toyota Corolla Passenger Car
NHTSA No.: C55110

PREPARED BY:
MGA RESEARCH CORPORATION
5000 WARREN ROAD
BURLINGTON, WI 53105

Test Date: August 16, 2005
Final Report Date: December 2, 2005

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
MAIL CODE: NVS-220
400 SEVENTH STREET, SW, ROOM 6115
WASHINGTON, D.C. 20590
This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-03-D-11002.

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Prepared by: _____________________________ Date: December 2, 2005
Jeff Lewandowski, Project Engineer

Reviewed by: _____________________________ Date: December 2, 2005
David Winkelbauer, Facility Director

FINAL REPORT ACCEPTED BY OVSC:

Accepted By: _____________________________

Acceptance Date: ___________________________
Compliance tests were conducted on the subject 2005 Toyota Corolla in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208-12 for the determination of FMVSS 208 compliance. Test failures identified were as follows:

TEST FAILURES: None
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## Data Sheet

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</tbody>
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<td>E-1</td>
</tr>
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</table>
SECTION 1
PURPOSE OF COMPLIANCE TEST

The tests performed are part of a program conducted for the National Highway Traffic Safety Administration (NHTSA) by MGA Research Corporation (MGA) under Contract No. DTNH22-03-D-11002. The purpose of this test was to determine whether the subject vehicle, a 2005 Toyota Corolla, NHTSA No. C55110, meets certain performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; FMVSS 219, "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity". The compliance test was conducted in accordance with OVSC Laboratory Test Procedure No. TP208-12 dated January 14, 2003.
SECTION 2
TESTS PERFORMED

Test Vehicle: 2005 Toyota Corolla  NHTSA No.: C55110
Test Program: FMVSS 208 Compliance  Test Date: 8/16/05

The following checked items indicate the tests that were performed:

1. Rear outboard seating position seat belts (S4.1.1.2(b) & (S4.2.4)
2. Air bag labels (S4.5.1)
3. Readiness indicator (S4.5.2)
4. Passenger air bag manual cut-off device (S4.5.4)
5. Lap belt lockability (S7.1.1.5)
6. Seat belt warning system (S7.3)
7. Seat belt contact force (S7.4.4)
8. Seat belt latch plate access (S7.4.4)
9. Seat belt retraction (S7.4.5)
10. Seat belt guides and hardware (S7.4.6)
11. Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R)
12. Suppression tests with newborn infant (Part 572, Subpart K)
13. Suppression tests with 3-year-old dummy (Part 572, Subpart P)
14. Suppression tests with 6-year-old dummy (Part 572, Subpart N)
15. Test of reactivation of the passenger air bag system with an unbelted 5th percentile female dummy
16. Low risk deployment test with 12-month-old dummy (Part 572, Subpart R)
17. Low risk deployment test with 3-year-old dummy (Part 572, Subpart P)
18. Low risk deployment test with 6-year-old dummy (Part 572, Subpart N)
19. Low risk deployment test with 5th female dummy (Part 572, Subpart O)
20. Impact Tests

Frontal Oblique

- Belted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.1.(a))
- Unbelted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))
- Unbelted 50th male dummy driver and passenger (32 to 40 kmph) (S5.1.2(a) (1) or S5.1.2(b))

Frontal 0°

- Belted 50th male dummy driver (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
- Belted 50th male dummy passenger (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
- Belted 5th female dummy driver (0 to 48 kmph) (S16.1(a))
- Belted 5th female dummy passenger (0 to 48 kmph) (S16.1(a))
- Belted 50th male dummy driver and passenger (0 to 56 kmph) (S5.1.1.(b)(2))
- Unbelted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a) (1))
- Unbelted 50th male dummy driver (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
- Unbelted 50th male dummy passenger (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
Unbelted 5th female dummy driver (32 to 40 kmph) (S16.1(b))
Unbelted 5th female dummy passenger (32 to 40 kmph) (S16.1(b))
40% Offset 0° Belted 5th male dummy driver and passenger (0 to 40 kmph) (S18.1)

21. Sled Test: unbelted 50th male dummy driver and passenger (S13)
22. FMVSS 204 Indicant Test
X 23. FMVSS 212 Indicant Test
X 24. FMVSS 219 Indicant Test
X 25. FMVSS 301 Frontal Indicant Test

For the crash tests, the vehicle was instrumented with 8 accelerometers. The accelerometer data from the vehicle and dummies were sampled at 10,000 samples per second and processed as specified in SAE J211/1 MAR95 and FMVSS 208, S4.13.

The dynamic tests were recorded using high-speed film and high-speed digital video.

The vehicle appears to meet all of the performance requirements to which it was tested.
SECTION 3

INJURY RESULT SUMMARY FOR FMVSS 208 TESTS

Test Vehicle: 2005 Toyota Corolla  
Test Program: FMVSS 208 Compliance  
NHTSA No.: C55110  
Test Date: 8/16/05

40 kmph Frontal Crash

Impact Angle: Zero degrees

Belted Dummies: _Yes  _X No  
Speed Range: ___ 0 to 40 kmph  _X 32 to 40 kmph  
___ 0 to 48 kmph  ___ 0 to 56 kmph

Test Speed: 39.9 kmph  
Test Weight: 1364.5 kg

Driver Dummy: ___5th female  _X 50th male  
Passenger Dummy: ___5th female  _X 50th male

50th Percentile Male Frontal Crash Test

<table>
<thead>
<tr>
<th>Injury Criteria</th>
<th>Max. Allowable Injury Assessment Values</th>
<th>Driver</th>
<th>Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIC15</td>
<td>700</td>
<td>231</td>
<td>241</td>
</tr>
<tr>
<td>Nle</td>
<td>1.0</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Nlf</td>
<td>1.0</td>
<td>0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Nce</td>
<td>1.0</td>
<td>0.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Ncf</td>
<td>1.0</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Neck Tension</td>
<td>4170 N</td>
<td>736</td>
<td>150</td>
</tr>
<tr>
<td>Neck Compression</td>
<td>4000 N</td>
<td>3076</td>
<td>3919</td>
</tr>
<tr>
<td>Chest g</td>
<td>60 g</td>
<td>38</td>
<td>25</td>
</tr>
<tr>
<td>Chest Displacement</td>
<td>63 mm</td>
<td>24</td>
<td>9</td>
</tr>
<tr>
<td>Left Femur</td>
<td>10,000 N</td>
<td>4382</td>
<td>2990</td>
</tr>
<tr>
<td>Right Femur</td>
<td>10,000 N</td>
<td>3292</td>
<td>5175</td>
</tr>
</tbody>
</table>

Vehicles certified to S5.1.1(b)(1), S5.1.1(b)(2), S5.1.2(a)(2), or S5.1.2(b)
SECTION 4
DISCUSSION OF TESTS

Test Vehicle: 2005 Toyota Corolla  
NHTSA No.: C55110
Test Program: FMVSS 208 Compliance  
Test Date: 8/16/05

The vehicle was tested in a 25 mph frontal impact only. FMVSS 208 Datasheets not used for this test have been removed from the report.

The post test FMVSS 301 rollover was not conducted at the direction of the COTR.

Driver and passenger H Point ATD positioning CCM data is provided in Appendix D.
<table>
<thead>
<tr>
<th>Test Vehicle</th>
<th>2005 Toyota Corolla</th>
<th>NHTSA No.</th>
<th>C55110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Program</td>
<td>FMVSS 208 Compliance</td>
<td>Test Dates</td>
<td>8/16/05</td>
</tr>
</tbody>
</table>
DATA SHEET 1
COTR VEHICLE WORK ORDER

Test Vehicle: 2005 Toyota Corolla
Test Program: FMVSS 208 Compliance
NHTSA No.: C55110
Test Date: 8/16/05
COTR Signature: Charles R. Case

Test to be performed for this vehicle are checked below:

1. Rear Outboard Seating Position Seat Belts (S4.1.2(b)) & (S4.2.4)
2. Air Bag Labels (S4.5.1)
3. Readiness Indicator (S4.5.2)
4. Passenger Air Bag Manual Cut-off Device (S4.5.4)
5. Lap Belt Lockability (S7.1.1.5)
6. Seat Belt Warning System (S7.3)
7. Seat Belt Contact Force (S7.4.4)
8. Seat Belt Latch Plate Access (S7.4.4)
9. Seat Belt Retraction (S7.4.5)
10. Seat Belt Guides and Hardware (S7.4.6)
11. Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R) using the following indicated child restraints.

Section B

<table>
<thead>
<tr>
<th>Child Restraint</th>
<th>Position</th>
<th>Position</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Handle with Care 191</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Assura 4553</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Avanta SE 41530</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Smart Fit 4543</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Arriva 02727</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Opus 35 02603</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Discovery Adjust Right 212</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo First Choice 204</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo On My Way Position Right V 282</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Graco Infant 8457</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
</tbody>
</table>

Section C

<table>
<thead>
<tr>
<th>Child Restraint</th>
<th>Position</th>
<th>Position</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roundabout 161</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Encore 4612</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century STE 1000 4416</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Olympian 02803</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Touriva 02519</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Horizon V 425</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Medallion 254</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
</tbody>
</table>

12. Suppression tests with newborn infant (Part 572, Subpart K) using the following indicated child restraints.

Section A

<table>
<thead>
<tr>
<th>Child Restraint</th>
<th>Position</th>
<th>Position</th>
<th>Position</th>
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</thead>
<tbody>
<tr>
<td>Cosco Dream Ride 02-719</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
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</table>

13. Suppression tests with 3-year-old dummy (Part 572, Subpart P) using the following indicated child restraints where a child restraint is required.
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<th>Child Restraint</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roundabout 161</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Encore 4612</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century STE 1000 4416</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Olympian 02803</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Touriva 02519</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Horizon V 425</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Medallion 254</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
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</table>

Section D

<table>
<thead>
<tr>
<th>Child Restraint</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roadster 9004</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Next Step 4920</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco High Back Booster 02-442</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Right Fit 245</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
</tbody>
</table>

14. Suppression tests with representative 3-year-old child using the following indicated child restraints where a child restraint is required. (Appendix H, Data Sheet 16H and 17H)

Section C

<table>
<thead>
<tr>
<th>Child Restraint</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roundabout 161</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Encore 4612</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century STE 1000 4416</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Olympian 02803</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Touriva 02519</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Horizon V 425</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Medallion 254</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
</tbody>
</table>

Section D

<table>
<thead>
<tr>
<th>Child Restraint</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roadster 9004</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Next Step 4920</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco High Back Booster 02-442</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Right Fit 245</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
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</tbody>
</table>

15. Suppression tests with 3-year-old dummy (Part 572, Subpart P) in the following Forward, Middle, and Rearward seat track positions

<table>
<thead>
<tr>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting on seat with back against seat back (S22.2.2.1)</td>
</tr>
<tr>
<td>Sitting on seat with back against reclined seat back (S22.2.2.2)</td>
</tr>
<tr>
<td>Sitting on seat with back not against seat back (S22.2.2.3)</td>
</tr>
<tr>
<td>Sitting on seat edge, spine vertical, hands by the child’s side (S22.2.2.4)</td>
</tr>
<tr>
<td>Standing on seat, facing forward (S22.2.2.5)</td>
</tr>
<tr>
<td>Kneeling on seat facing forward (S22.2.2.6)</td>
</tr>
<tr>
<td>Kneeling on seat facing rearward (S22.2.2.7)</td>
</tr>
<tr>
<td>Lying on seat (S22.2.2.8)</td>
</tr>
</tbody>
</table>

16. Suppression tests with representative 3-year-old child in the following positions

<table>
<thead>
<tr>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting on seat with back against seat back (S22.2.2.1)</td>
</tr>
<tr>
<td>Sitting on seat with back against reclined seat back (S22.2.2.2)</td>
</tr>
<tr>
<td>Sitting on seat with back not against seat back (S22.2.2.3)</td>
</tr>
<tr>
<td>Sitting on seat edge, spine vertical, hands by the child’s side (S22.2.2.4)</td>
</tr>
<tr>
<td>Standing on seat, facing forward (S22.2.2.5)</td>
</tr>
<tr>
<td>Kneeling on seat facing forward (S22.2.2.6)</td>
</tr>
<tr>
<td>Kneeling on seat facing rearward (S22.2.2.7)</td>
</tr>
<tr>
<td>Lying on seat (S22.2.2.8)</td>
</tr>
</tbody>
</table>

17. Suppression tests with 6-year-old dummy (Part 572, Subpart N) using the following indicated child restraints where a child restraint is required.
18. Suppression tests with representative 6-year-old child using the following indicated child restraints where a child restraint is required.

Section D

<table>
<thead>
<tr>
<th>Restraint</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Roadster 9004</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Next Step 4920</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco High Back Booster 02-442</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Right Fit 245</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
</tbody>
</table>

19. Suppression tests with 6-year-old dummy (Part 572, Subpart N) in the following Forward, Middle, and Rearward seat track positions

Sitting on seat with back against seat back (S22.2.2.1)
Sitting on seat with back against reclined seat back (S22.2.2.2)
Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
Sitting back in the seat and leaning on the right front passenger door (S24.2.3)

20. Suppression tests with representative 6-year-old child in the following positions

Sitting on seat with back against seat back (S22.2.2.1)
Sitting on seat with back against reclined seat back (S22.2.2.2)
Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)
Sitting back in the seat and leaning on the right front passenger door (S24.2.3)

21. Test of Reactivation of the Passenger Air Bag System with an Unbelted 5th percentile female dummy (S20.3, 22.3, S24.3). Perform this test after the following suppression tests: After each restraint.

22. Test of Reactivation of the passenger air bag system with a representative 5th percentile female (S20.3, 22.3, S24.3). Perform this test after the following suppression tests:

23. Low risk deployment test with 12-month-old dummy (Part 572, Subpart R) using the following indicated child restraints.

Section B

<table>
<thead>
<tr>
<th>Restraint</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britax Handle with Care 191</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Assura 4553</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Avanta SE 41530</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Century Smart Fit 4543</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Arriva 02727</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Opus 35 02603</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Discovery Adjust Right 212</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo First Choice 204</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo On My Way Position Right V 282</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Graco Infant 8457</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
</tbody>
</table>

Section C

<table>
<thead>
<tr>
<th>Restraint</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
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<tbody>
<tr>
<td>Britax Roundabout 161</td>
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<td>Full Forward</td>
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<td>Century Encore 4612</td>
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<td>Full Forward</td>
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<tr>
<td>Century STE 1000 4416</td>
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<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Olympian 02803</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Cosco Touriva 02519</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Horizon V 425</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
<tr>
<td>Evenflo Medallion 254</td>
<td>Full Rearward</td>
<td>Mid Position</td>
<td>Full Forward</td>
</tr>
</tbody>
</table>
24. Low risk deployment test with 3-year-old dummy (Part 572, Subpart P) in the following positions
   - Position 1
   - Position 2

25. Low risk deployment test with 6-year-old dummy (Part 572, Subpart N) in the following positions
   - Position 1
   - Position 2

26. Low risk deployment test with 5th percentile female dummy (Part 572, Subpart O) in the following positions
   - Position 1
   - Position 2

27. Impact Tests
   - Frontal Oblique – Test Speed:
     - Belted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.1(a))
     - Unbelted 50th male dummy driver and passenger (0 to 48 kmph) (S5.1.2(a)(1))
     - Unbelted 50th male dummy driver and passenger (32 to 40 kmph) (S5.1.2(a) (1) or S5.1.2(b))

   - Frontal 0° - Test Speed: 39.9 kmph
     - Belted 50th male dummy driver (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
     - Belted 50th male dummy passenger (0 to 48 kmph) (S5.1.1.(b)(1) or S5.1.1(a))
     - Belted 5th female dummy driver (0 to 48 kmph) (S16.1(a))
     - Belted 5th female dummy passenger (0 to 48 kmph) (S16.1(a))
     - Belted 50th male dummy driver and passenger (0 to 56 kmph) (S5.1.2(a) (1))
     - Unbelted 50th male dummy driver (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
     - Unbelted 50th male dummy passenger (32 to 40 kmph) (S5.1.2.(a)(2) or S5.1.2(b))
     - Unbelted 5th female dummy driver (32 to 40 kmph) (S16.1(b))
     - Unbelted 5th female dummy passenger (32 to 40 kmph) (S16.1(b))

   - 40% Offset 0° Belted 5th male dummy driver and passenger (0 to 40 kmph) (S18.1) – Test Speed:

28. Sled Test: Unbelted 50th male dummy driver and passenger (S13)

29. FMVSS 204 Indicant Test

30. FMVSS 212 Indicant Test

31. FMVSS 219 Indicant Test

32. FMVSS 301 Frontal Indicant Test
DATA SHEET 2
REPORT OF VEHICLE CONDITION

Test Vehicle: 2005 Toyota Corolla
Test Program: FMVSS 208 Compliance
NHTSA No.: C55110
Test Date: 8/16/05

CONTRACT NO. DTNH22-03-D-11002 Date: 8/19/05
FROM (Lab and rep name): MGA Research Corporation
TO: NHTSA, OVSC (NVS-220)

PURPOSE: (X) Initial Receipt  ( ) Received via Transfer  (X ) Present vehicle condition

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2005 Toyota Corolla LE Sedan
MANUFACTURE DATE: 06/04
NHTSA NO. C55110  GVWR: 1626 kg (3585 lbs)
BODY COLOR: White  GAWR (Fr): 855 kg (1885 lbs)
VIN: JTDBR32E652050860  GAWR (Rr): 780 kg (1720 lbs)

ODOMETER READINGS: ARRIVAL (miles): 269  DATE: 7/20/05
COMPLETION (miles): 271  DATE: 8/16/05

PURCHASE PRICE: ($) 16,417
DEALER’S NAME: Bobby Rahal Toyota; 6305 Carlisle Pike; Mechanicsburg, PA 17050

A. All options listed on window sticker are present on the test vehicle:
   _X_ Yes  ___No
B. Tires and wheel rims are new and the same as listed:  _X_ Yes  ___No
C. There are no dents or other interior or exterior flaws:  _X_ Yes  ___No
D. The vehicle has been properly prepared and is in running condition:
   _X_ Yes  ___No
E. Keyless remote is available and working:  _X_ Yes  ___No
F. The glove box contains an owner’s manual, warranty document, consumer information, and extra set of keys:
   _X_ Yes  ___No
G. Proper fuel filler cap is supplied on the test vehicle:  _X_ Yes  ___No
H. Using permanent marker, identify vehicle with NHTSA number and FMVSS test type(s) on roof line above driver door or for school buses, place a placard with NHTSA number inside the windshield and to the exterior front and rear side of bus:
   _X_ Yes  ___No
I. Place vehicle in storage area:  _X_ Yes  ___No
J. Inspect the vehicle’s interior and exterior, including all windows, seats, doors, etc. to confirm that each system is complete and functional per the manufacturer’s specifications. Any damage, misadjustment, or other unusual condition that could influence the test program or test results shall be recorded. Report any abnormal condition to the NHTSA COTR before beginning any test:
   _X_ Vehicle OK  ___Conditions reported below
REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

LIST OF FMVSS TESTS PERFORMED BY THIS LAB:  FMVSS 208, 212, 219, 301

VEHICLE:  2005 Toyota Corolla  NHTSA NO.  C55110

REMARKS:

Equipment that is no longer on the test vehicle as noted on previous page:
Spare tire, jack and tools, wheel covers, and trunk interior

Explanation for equipment removal:
Components removed for instrumentation installation and to meet target weight.

Test Vehicle Condition:
25 mph frontal impact damage- front suspension & structure damaged, hood & front quarter panels damaged, radiator damaged, air bags & pretensioners deployed, Stoddard in fuel system

RECORDED BY:  Jeff Lewandowski  DATE:  8/19/2005
APPROVED BY:  David Winkelbauer  DATE:  8/19/2005

RELEASE OF TEST VEHICLE

The vehicle described above is released from MGA to be delivered to:

Date:  Time:  Odometer:
Lab Rep’s Signature:
Title:
Carrier/Customer Rep:
Date:
DATA SHEET 3
CERTIFICATION LABEL AND TIRE PLACARD INFORMATION

Test Vehicle: 2005 Toyota Corolla
Test Program: FMVSS 208 Compliance
Test Technician: Nick Kosinski

<table>
<thead>
<tr>
<th>Certification Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer:</td>
</tr>
<tr>
<td>Date of Manufacture:</td>
</tr>
<tr>
<td>VIN:</td>
</tr>
<tr>
<td>Vehicle Certified As (Pass. Car/MPV/Truck/Bus):</td>
</tr>
<tr>
<td>Front Axle GVWR:</td>
</tr>
<tr>
<td>Rear Axle GVWR:</td>
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<tr>
<td>Total GVWR:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tire Placard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable, vehicle is not a passenger car and does not have a tire placard.</td>
</tr>
<tr>
<td>This is not a passenger car, but all or part of this information is still contained on a vehicle label and is reported here.</td>
</tr>
<tr>
<td>Vehicle Capacity Weight:</td>
</tr>
<tr>
<td>Designated Seating Capacity Front:</td>
</tr>
<tr>
<td>Designated Seating Capacity Rear:</td>
</tr>
<tr>
<td>Total Designated Seating Capacity:</td>
</tr>
<tr>
<td>Recommended Cold Tire Inflation Pressure Front:</td>
</tr>
<tr>
<td>Recommended Cold Tire Inflation Pressure Rear:</td>
</tr>
<tr>
<td>Recommended Tire Size:</td>
</tr>
</tbody>
</table>

Signature: 

Date: 8/16/05
DATA SHEET 14
MARKING OF REFERENCE POINTS FOR VARIOUS TEST POSITIONS AND POINTS

Test Vehicle: 2005 Toyota Corolla  
Test Program: FMVSS 208 Compliance  
Test Technician: Eric Peschman

1. Driver Designated Seating Position:
   1.1 Position the seat’s adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment positions. (S16.2.10.1)
      - N/A – No lumbar adjustment
   1.2 Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position (S16.2.10.2)
      - N/A – No additional support adjustment
   1.3 Mark a point (seat cushion reference point) on the side of the seat cushion that is between 150 mm and 250 mm from the front edge of the seat cushion.
   1.4 Draw a line (seat cushion reference line) through the seat cushion reference point.
   1.5 Using only the controls that primarily move the seat in the fore-aft direction, move the seat cushion reference point to the rearmost position.
   1.6 If the seat cushion adjusts fore-aft, independent of the seat back, use only the controls that primarily move the seat cushion in the fore-aft direction to move the seat cushion reference point to the rearmost position (S16.2.10.3)
      - N/A – No independent fore-aft seat cushion adjustment
   1.7 Using any part of any control, other than the parts just used for fore-aft positioning, determine the range of angles of the seat cushion reference line and set the seat cushion reference line at the mid-angle.
      - Maximum Angle: 1.8° Nose Up
      - Minimum Angle: 4.9° Nose Down
      - Mid-angle: 1.6° Nose Down
   1.8 If the seat and/or seat cushion height is adjustable, use any part of any control other than those which primarily move the seat or seat cushion fore-aft, to put the seat cushion reference point in its lowest position with the seat cushion reference line angle at the mid-angle found in 1.7.
      - N/A – No seat height adjustment
   1.9 Using only the controls that primarily move the seat in the fore-aft direction, verify the seat is in the rearmost position.
   1.10 Using only the controls that primarily move the seat in the fore-aft direction, mark for future reference the fore-aft seat positions. Mark each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and mark each detent. For power seats, mark only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost.
   1.11 Use only the controls that primarily move the seat in the fore-aft direction to place the seat in the rearmost position.
1.12 Using any controls, other than the controls that primarily move the seat and/or seat cushion in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.7.

1.13 Using only the controls that primarily move the seat and/or seat cushion in the fore-aft direction, place the seat in the mid-fore-aft position.

1.14 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.7.

1.15 Using only the controls that change the seat in the fore-aft direction, place the seat in the foremost position.

1.16 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 1.7.

1.17 Visually mark for future reference the seat back angle, if adjustable, at the manufacturer’s nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer.

- N/A – No seat back angle adjustment
- Manufacturer’s design seat back angle: 88.3 degrees on Head Rest Post

1.18 Is the seat a bucket seat?

- Yes, go to 1.18.1 and skip 1.18.2
- No, go to 1.18.2 and skip 1.18.1

1.18.1 Bucket seats:

- Locate and mark for future reference the longitudinal centerline of the seat cushion. The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle. (S16.3.1.10)
- Record the width of the seat cushion: Used SRP Provided By Manufacturer
- One half the width of the seat cushion is: Used SRP Provided By Manufacturer
- Record the distance from the edge of the seat cushion to the seat mark: 260 mm

1.18.2 Bench seats:

- Locate and mark for future reference the longitudinal line on the seat cushion that marks the longitudinal vertical plane through the centerline of the steering wheel.

2. Passenger Designated Seating Position

2.1 Is the seat adjustable independent of the driver seating position?

- Yes, go to 2.2
- No, go to 2.18

2.2 Position the seat’s adjustable lumbar supports so that the lumbar supports are in the lowest, retracted or deflated adjustment positions (S16.2.10.1, S20.1.9.1, S22.1.7.1)

- N/A – No lumbar adjustment

2.3 Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2, S20.1.9.2, S22.1.7.2)

- N/A – No additional support adjustment
2.4 Mark a point (seat cushion reference point) on the side of the seat cushion that is between 150 mm and 250 mm from the front edge of the seat cushion.

2.5 Draw a line (seat cushion reference line) through the seat cushion reference point.

2.6 Using only the controls that primarily move the seat in the fore-aft direction, move the seat cushion reference point to the rearmost position.

2.7 If the seat cushion adjusts fore-aft, independent of the seat back, use only the controls that primarily move the seat cushion in the fore-aft direction to move the seat cushion reference point to the rearmost position (S16.2.10.3, S20.1.9.3, S22.1.7.3)

N/A – No independent fore-aft seat cushion adjustment.

2.8 Using any part of the control, other than the parts just used for fore-aft positioning, determine the range of angles of the seat cushion reference line and set the seat cushion reference line at the mid-angle.

Maximum Angle: Not Adjustable
Minimum Angle: Not Adjustable
Mid-angle: Not Adjustable

2.9 If the seat and/or seat cushion height is adjustable, use any part of any control other than those which primarily move the seat or seat cushion fore-aft, to put the seat cushion reference point in its lowest position with the seat cushion reference line angle at the mid-range angle.

N/A – No seat height adjustment

2.10 Using only the controls that primarily move the seat and/or seat cushion in the fore-aft direction, verify the seat is in the rearmost position.

2.11 Using only the controls that primarily move the seat in the fore-aft direction, mark for future reference the fore-aft seat positions. Mark each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and mark each detent. For power seats, mark only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost.

2.12 Using only the controls that primarily move the seat in the fore-aft direction, place the seat in the rearmost position.

2.13 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 2.8.

N/A – No seat height adjustment Go to 2.18

2.14 Using only the controls that primarily move the seat in the fore-aft direction, place the seat in the mid-fore-aft position.

2.15 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 2.8.

2.16 Using only the controls that change the seat in the fore-aft direction, place the seat in the foremost position.
2.17 Using any controls, other than the controls that primarily move the seat in the fore-aft direction, find and visually mark for future reference the maximum, minimum, and middle height of the seat cushion reference point with the seat cushion reference line at the mid-angle determined in 2.8.

2.18 Visually mark for future reference the seat back angle, if adjustable, at the manufacturer’s nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer.

X N/A – No seat back angle adjustment
X N/A – The seat back angle adjustment is controlled by the setting of the driver seat back angle.

Manufacturer’s design seat back angle: 89.0° on Head Rest Post
Actual seat back angle: 89.1° on Head Rest Post

2.19 Is the seat a bucket seat?

X Yes, go to 2.19.1 and skip 2.19.2
X No, go to 2.19.2 and skip 2.19.1

2.19.1 Bucket seats:

X Locate and mark for future reference the longitudinal centerline of the seat cushion. (S20.2.1.3, S22.2.1.3) The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle. (S20.1.10)

X Record the width of the seat cushion: Used SRP Provided By Manufacturer
X One half the width of the seat cushion is: Used SRP Provided By Manufacturer

X Record the distance from the edge of the seat cushion to the longitudinal centerline of the seat cushion. (The vertical plane through this longitudinal centerline is Plane B for suppression.) 260 mm

2.19.2 Bench seats:

X Locate and mark for future reference the longitudinal centerline of the passenger seat cushion. The longitudinal centerline is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel. (S20.2.1.3, S22.2.1.3)

X Record the distance from the longitudinal centerline of the vehicle to the center of the steering wheel:
X Record the distance from the longitudinal centerline of the vehicle to the longitudinal centerline of the seat cushion. (The vertical plane through this longitudinal centerline is Plane B for suppression.)

3. Head Restraints

X N/A, vehicle contains automatic head restraints
X N/A, there is no head restraint adjustment

X 3.1 Left outboard

X 3.1.1 Adjust the head restraint to its lowest position. (S16.3.4.2)
X 3.1.2 Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible. Mark the foremost position.

X 3.1.3 Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate and mark a horizontal plane through the midpoint of this distance.

X Vertical height of head restraint (mm): 180
X Mid-point height (mm): 90
3.2 Right outboard

3.2.1 Adjust the head restraint to its lowest position. (S16.3.4.2)

3.2.2 Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible. Mark the foremost position.

3.2.3 Measure the vertical distance from the top most point of the head restraint to the bottom most point. Locate and mark a horizontal plane through the midpoint of this distance.

Vertical height of head restraint (mm): 180
Mid-point height (mm): 90

4. Steering Wheel

4.1 Is the steering wheel adjustable up and down and/or in and out?

Yes, go to 4.2
No, this form is complete

4.2 Find and mark for future reference each up and down position. Label three of the positions with the following: H for highest, M for mid-position (if there is no mid-position, label the next lowest adjustment position), and L for lowest.

N/A, steering wheel is not adjustable up and down

4.3 Find and mark for future references each in and out position. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the next rearmost adjustment position), and R for rearmost.

N/A, steering wheel is not adjustable in and out

5. Driver Low Risk Deployment

N/A, no low risk deployment tests scheduled

5.1 Position the steering wheel so the front wheels are in the straight-ahead position. (S26.2.1)

5.2 Position any adjustable parts of the steering controls to the mid-position as determined in item 3 above. If a mid-position adjustment is not achievable, position the controls to the next lowest detent position. (S26.2.1)

5.3 Locate the vertical plane parallel to the vehicle longitudinal centerline through the geometric center of the opening through which the driver air bag deploys into the occupant compartment. This is referred to as “Plane E”. (Check determination method below.) (S26.2.6)

Plane E determined using manufacturer’s information supplied by the COTR.
Plane E determined by test lab personnel and approved by the COTR.
(Include supporting documentation in the test report.)

<table>
<thead>
<tr>
<th>Ey (mm)</th>
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<tbody>
<tr>
<td>&quot;Plane E&quot; Measurement:</td>
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<tr>
<td>Measured:</td>
</tr>
<tr>
<td>Specified:</td>
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<tr>
<td>Verify Measured Equals Specified +/- 6mm:</td>
</tr>
</tbody>
</table>
5.4 Locate the horizontal plane through the highest point of the air bag module cover. This is referred to as "Plane F." (Check determination method below.) (S26.2.6)

Plane F determined using manufacturer's information supplied by the COTR.

Plane F determined by test lab personnel and approved by the COTR.

(Include supporting documentation in the test report.)

<table>
<thead>
<tr>
<th></th>
<th>Fz (mm)</th>
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<tbody>
<tr>
<td>&quot;Plane F&quot; Measurement:</td>
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<tr>
<td>Measured:</td>
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<tr>
<td>Specified:</td>
<td></td>
</tr>
<tr>
<td>Verify Measured Equals Specified +/- 6mm:</td>
<td></td>
</tr>
</tbody>
</table>

6. Passenger Low Risk Deployment – Planes C and D

6.1 Locate the horizontal plane through the geometric center of the opening through which the right front air bag deploys into the occupant compartment. This is referred to as "Plane C." (Check location method below.) (S22.4.1.3)

Plane C located using manufacturer's information supplied by the COTR.

(Include manufacturer's information in the test report.) OR

Plane C located by test lab personnel and approved by the COTR.

(Include supporting documentation in the test report.)

<table>
<thead>
<tr>
<th></th>
<th>Cz (mm)</th>
</tr>
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<tbody>
<tr>
<td>&quot;Plane C&quot; Measurement:</td>
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<td>Measured:</td>
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<tr>
<td>Specified:</td>
<td></td>
</tr>
<tr>
<td>Verify Measured Equals Specified +/- 6mm:</td>
<td></td>
</tr>
</tbody>
</table>

6.2 Locate the vertical plane parallel to the vehicle longitudinal centerline through the geometric center of the opening through which the right front air bag deploys into the occupant compartment. This is referred to as "Plane D." (Check determination method below.) (S22.4.1.2)

Plane D determined using manufacturer's information supplied by the COTR.

(Include manufacturer's information in the test report.) OR

Plane D determined by test lab personnel and approved by the COTR.

(Include supporting documentation in the test report.)

<table>
<thead>
<tr>
<th></th>
<th>Dy (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Plane D&quot; Measurement:</td>
<td></td>
</tr>
<tr>
<td>Measured:</td>
<td></td>
</tr>
<tr>
<td>Specified:</td>
<td></td>
</tr>
<tr>
<td>Verify Measured Equals Specified +/- 6mm:</td>
<td></td>
</tr>
</tbody>
</table>

6.3 Mark the intersection of Planes C and D on the instrument panel.
7. 5th Female Dummy
   Mark a point on the chin of the dummy 40 mm below the center of the mouth. (Chin Point) (S26.2.6)

8. 6-Year-Old Dummy
   Locate and mark a point on the front of the dummy’s chest jacket on the midsagittal plane which is 139 mm (5.5 in) ± 3 mm (± 0.1 in) along the surface of the skin down from the top of the skin at the neck line. Designate this point as "Point 1." (S24.4.1.1)

9. 3-Year-Old Dummy
   Locate and mark a point on the front of the dummy’s chest jacket on the midsagittal plane which is 114 mm (4.5 in) ± 3 mm (± 0.1 in) along the surface of the skin down from the top of the skin at the neck line. Designate this point as "Point 1." (S22.4.1.1)

REMARKS:
I certify that I have read and performed each instruction.

Signature: ____________________  Date: 8/16/05
DATA SHEET 30
VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

Test Vehicle: 2005 Toyota Corolla
Test Program: FMVSS 208 Compliance
Test Technician: Nick Kosinski
NHTSA No.: C55110
Test Date: 8/16/05

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>No</td>
</tr>
<tr>
<td>TEST SPEED:</td>
<td>X 32 to 40 kmph</td>
</tr>
<tr>
<td>DRIVER DUMMY:</td>
<td>_X 50th male</td>
</tr>
<tr>
<td>PASSENGER DUMMY:</td>
<td>_X 50th male</td>
</tr>
</tbody>
</table>

1. Fill the transmission with transmission fluid to the satisfactory range.
2. Drain fuel from vehicle
3. Run the engine until fuel remaining in the fuel delivery system is used and the engine stops.
4. Record the useable fuel tank capacity supplied by the COTR
   Useable Fuel Tank Capacity supplied by COTR: 50.0 liters (13.2 gallons)
5. Record the fuel tank capacity supplied in the owner’s manual.
   Useable Fuel Tank Capacity in owner’s manual: 50.0 liters (13.2 gallons)
6. Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 1, ASTM Standard D484-71, “Standard Specifications for Hydrocarbon Dry-cleaning Solvents,” or gasoline, fill the fuel tank.
   Amount Added: 50.0 liters (13.2 gallons)
7. Fill the coolant system to capacity.
8. Fill the engine with motor oil to the Max. mark on the dip stick.
9. Fill the brake reservoir with brake fluid to its normal level.
10. Fill the windshield washer reservoir to capacity.
11. Inflate the tires to the tire pressure on the tire placard. If no tire placard is available, inflate the tires to the recommended pressure in the owner’s manual.
   | Tire placard pressure: RF: 30 psi | LF: 30 psi | RR: 30 psi | LR: 30 psi |
   | Owner’s manual pressure: RF: 30 psi | LF: 30 psi | RR: 30 psi | LR: 30 psi |
   | Actual inflated pressure: RF: 30 psi | LF: 30 psi | RR: 30 psi | LR: 30 psi |
12. Record the vehicle weight at each wheel to determine the unloaded vehicle weight (UVW), i.e. "as delivered" weight.
   | Right Front (kg): 349.5 | Right Rear (kg): 221.5 |
   | Left Front (kg): 369.0 | Left Rear (kg): 227.0 |
   | Total Front (kg): 718.5 | Total Rear (kg): 448.5 |
   | % Total Weight: 61.6 | % Total Weight: 38.4 |
   | UVW = TOTAL FRONT PLUS TOTAL REAR (KG): 1167.0 |
13. UVW Test Vehicle Attitude: (All dimensions in millimeters)
13.1 Mark a point on the vehicle above the center of each wheel.
13.2 Place the vehicle on a level surface.
13.3 Measure perpendicular to the level surface to the 4 points marked on the body and record the measurements

RF: 683  LF: 684  RR: 711  LR: 706

14. Calculate the Rated Cargo and Luggage Weight (RCLW): 50 kg

14.1 Does the vehicle have the vehicle capacity weight (VCW) on the certification label or tire placard?

- Yes, go to 14.3
- No, go to 14.2

14.2 VCW = Gross Vehicle Weight – UVW

\[
\text{VCW} = \text{__________} - \text{__________} = \text{__________}
\]

14.3 VCW = 390 kg (860 lbs)

14.4 Does the certification or tire placard contain the Designated Seating Capacity (DSC)?

- Yes, go to 14.6
- No, go to 14.5 and skip 14.6

14.5 DSC = Total number of seat belt assemblies = _________

14.6 DSC = 5

14.7 RCLW = VCW – (68 kg x DSC) = 390 kg - (68 kg x 5) = 50 kg

14.8 Is the vehicle certified as a truck, MPV or bus (see the certification label on the door jamb)?

- Yes, if the calculated RCLW is greater than 136 kg, use 136 kg as the RCLW. (S8.1.1)
- No, use the RCLW calculated in 14.7

15. Fully Loaded Weight (100% fuel fill): 1374.0 kg

15.1 Place the appropriate test dummy in both front outboard seating positions.

Driver: ___ 5th female  X 50th male
Passenger: ___ 5th female  X 50th male

15.2 Load the vehicle with the RCLW from 14.7 or 14.8 whichever is applicable.

15.3 Place the RCLW in the cargo area. Center the load over the longitudinal centerline of the vehicle. (S8.1.1 (d))

15.4 Record the vehicle weight at each wheel to determine the Fully Loaded Weight.

| Right Front (kg): | 387.0 | Right Rear (kg): | 282.0 |
| Left Front (kg): | 414.0 | Left Rear (kg): | 291.0 |
| Total Front (kg): | 801.0 | Total Rear (kg): | 573.0 |
| % Total Weight: | 58.3 | % Total Weight: | 41.7 |
| % GVW: | 52.6 | % GVW: | 48.0 |
| (% GVW = Axle GVW divided by Vehicle GVW) |
| Fully Loaded Weight = Total Front Plus Total Rear (kg): | 1374.0 |

16. Fully Loaded Test Vehicle Attitude: (All dimensions in millimeters)

16.1 Place the vehicle on a level surface.
16.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13.1 above) and record the measurements

| RF: 671 | LF: 669 | RR: 681 | LR: 673 |

17. Drain the fuel system

18. Using purple dyed Stoddard solvent having the physical and chemical properties of Type 1 solvent or cleaning fluid, Table 1, ASTM Standard D484-71, "Standard Specifications for Hydrocarbon Dry-cleaning Solvents," fill the fuel tank to 92 - 94 percent of useable capacity.

Fuel tank capacity x .94 = 50.0 liters (13.2 gallons) x .94 = 47.0 liters (12.4 gallons)
Amount added 46.6 liters (12.3 gallons) 93.2%

19. Crank the engine to fill the fuel delivery system with Stoddard solvent

20. Calculate the test weight range.

20.1 Calculated Weight = UVW (see 12 above) + RCLW (see 14 above) + 2x(dummy weight)

\[ 1373.0 \text{ kg} = 1167.0 \text{ kg} + 50.0 \text{ kg} + 156.0 \text{ kg} \]

20.2 Test Weight Range = Calculated Weight (- 4.5 kg, - 9 kg.)
Max. Test Weight = Calculated Test Weight – 4.5 kg = 1368.5 kg
Min. Test Weight = Calculated Test Weight – 9 kg = 1364.0 kg

21. Remove the RCLW from the cargo area.

22. Drain transmission fluid, engine coolant, motor oil, and windshield washer fluid from the test vehicle so that Stoddard solvent leakage from the fuel system will be evident.

23. Vehicle Components Removed For Weight Reduction:
Spare tire, tool and jack, wheel covers, and trunk interior

24. Secure the equipment and ballast in the load carrying area and distribute it, as nearly as possible, to obtain the proportion of axle weight indicated by the gross axle weight ratings and center it over the longitudinal centerline of the vehicle.

25. If necessary, add ballast to achieve the actual test weight.

26. Ballast, including test equipment, must be contained so that it will not shift during the impact event or interfere with data collection or interfere with high-speed film recordings or affect the structural integrity of the vehicle or do anything else to affect test results. Care must be taken to assure that any attachment hardware added to the vehicle is not in the vicinity of the fuel tank or lines.

27. Record the vehicle weight at each wheel to determine the actual test weight.

| Right Front (kg): | 393.0 | Right Rear (kg): | 277.0 |
| Left Front (kg): | 414.5 | Left Rear (kg): | 280.0 |
| Total Front (kg): | 807.5 | Total Rear (kg): | 557.0 |
| % Total Weight: | 59.2 | % Total Weight: | 40.8 |
| % GVW | 52.6 | % GVW | 48.0 |

(% GVW = Axle GVW divided by Vehicle GVW)

**TOTAL FRONT PLUS TOTAL REAR (kg):** 1364.5
28. Is the test weight between the Max. Weight and the Min. Weight (See 20.2)?

Yes

No, explain why not.

29. Test Weight Vehicle Attitude: (all dimensions in millimeters)

29.1 Place the vehicle on a level surface

29.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 13 above) and record the measurements

|    | RF: 672 | LF: 670 | RR: 681 | LR: 689 |

30. Summary of test attitude

30.1 AS DELIVERED:

|    | RF: 683 | LF: 684 | RR: 711 | LR: 706 |

AS TESTED:

|    | RF: 672 | LF: 670 | RR: 681 | LR: 689 |

FULLY LOADED:

|    | RF: 671 | LF: 669 | RR: 681 | LR: 673 |

30.2 Is the “as tested” test attitude equal to or between the “fully loaded” and “as delivered” attitude?

Yes

No, explain why not.

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 8/16/05
DATA SHEET 31
VEHICLE ACCELEROMETER LOCATION AND MEASUREMENT

Test Vehicle: 2005 Toyota Corolla
Test Program: FMVSS 208 Compliance
Test Technician: Nick Kosinski

IMPACT ANGLE: Zero Degrees
BELTED DUMMIES (YES/NO): No
TEST SPEED: X 32 to 40 kmph | _ 0 to 48 kmph | _ 0 to 56 kmph
DRIVER DUMMY: _ 5th female | X 50th male
PASSENGER DUMMY: _ 5th female | X 50th male

1. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the left front outboard seating position intersects the left rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.

2. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the right front outboard seating position intersects the right rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.

3. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect at the top of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.

4. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect the bottom of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.

5. Install an accelerometer on the right front brake caliper to record x-direction accelerations. Record the location on the following chart.

6. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the top of the instrument panel. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.

7. Install an accelerometer on the left front brake caliper to record x-direction accelerations. Record the location on the following chart.

8. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the floor of the trunk. Install an accelerometer on the trunk floor at this intersection to record z-direction accelerations. Record the location on the following chart.

REMARKS:
I certify that I have read and performed each instruction.

Signature: Nick Kosinski
Date: 8/16/05
Dimensions Corresponding To The Letters “A” Through “K” (Excluding “I”) Are Recorded In The Table On The Following Page. Accelerometers Corresponding To The Numbers 1 Through 8 Are Specified On The Preceding Page.
# DATA SHEET 31

VEHICLE ACCELEROMETER LOCATION AND MEASUREMENTS

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>LENGTH (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRETEST VALUES</strong></td>
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</tr>
<tr>
<td>A (LH Rear Seat Xmbr)</td>
<td>354</td>
</tr>
<tr>
<td>B (RH Rear Seat Xmbr)</td>
<td>351</td>
</tr>
<tr>
<td>C (Engine Top)</td>
<td>3709</td>
</tr>
<tr>
<td>D (Engine Bottom)</td>
<td>3682</td>
</tr>
<tr>
<td>E (Caliper) Right Side</td>
<td>3675</td>
</tr>
<tr>
<td>F (Left Caliper)</td>
<td>615</td>
</tr>
<tr>
<td>G (IP)</td>
<td>3040</td>
</tr>
<tr>
<td>H (Seat)</td>
<td>1840</td>
</tr>
<tr>
<td>J (Right Caliper)</td>
<td>615</td>
</tr>
<tr>
<td>K (Trunk)</td>
<td>984</td>
</tr>
<tr>
<td><strong>POST TEST VALUES</strong></td>
<td></td>
</tr>
<tr>
<td>A (LH Rear Seat Xmbr)</td>
<td>350</td>
</tr>
<tr>
<td>B (RH Rear Seat Xmbr)</td>
<td>353</td>
</tr>
<tr>
<td>C (Engine Top)</td>
<td>3657</td>
</tr>
<tr>
<td>D (Engine Bottom)</td>
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</tr>
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<tr>
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<tr>
<td>J (Right Caliper)</td>
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</tr>
<tr>
<td>K (Trunk)</td>
<td>983</td>
</tr>
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</table>
DATA SHEET 32

PHOTOGRAPHIC TARGETS

Test Vehicle: 2005 Toyota Corolla  
Test Program: FMVSS 208 Compliance  
Test Technician: Nick Kosinski  
NHTSA No.: C55110  
Test Date: 8/16/05

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>No</td>
</tr>
<tr>
<td>TEST SPEED:</td>
<td>X 32 to 40 kmph</td>
</tr>
<tr>
<td>DRIVER DUMMY:</td>
<td>5th female</td>
</tr>
<tr>
<td>PASSENGER DUMMY:</td>
<td>5th female</td>
</tr>
</tbody>
</table>

1. FMVSS 208 vehicle targeting requirements (See Figures 28A and 28B)

1.1 Targets A1 and A2 are on flat rectangular panels.

1.2 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the front on the outboard sides of A1 and A2. The center of each circular target is 100 mm from the one next to it.

Distance between targets (mm): 100 mm

1.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the back on the outboard sides of on A1 and A2. The center of each circular target is 100 mm from the one next to it.

Distance between targets (mm): 100 mm

1.4 The distance between the first circular target at the front of A1 and A2 and the last circular target at the back of A1 and A2 is at least 915 mm.

Distance between the first and last circular targets (mm): 915 mm

1.5 Firmly fix target A1 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy.

1.6 Firmly fix target A2 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy.

1.7 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the driver door. The centers of each circular target are at least 610 mm apart.

Distance between targets (mm): 613 mm

1.8 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the passenger door. The centers of each circular target are at least 610 mm apart.

Distance between targets (mm): 614 mm

1.9 Place tape with squares having alternating colors on the top portion of the steering wheel.

1.10 Chalk the bottom portion of the steering wheel

1.11 Is this an offset test?

[ ] Yes, continue with this section

[X] No, go to 2.

1.12 Measure the width of the vehicle.

Vehicle width (mm):
1.13 Find the centerline of the vehicle. (½ of the vehicle width)

1.14 Find the line parallel to the centerline of the vehicle and 0.1 x vehicle width from the centerline of the vehicle.

1.15 Apply 25 mm wide tape with alternating black and yellow squares parallel to and on each side of the line found in 1.14. The edge of each tape shall be 50 mm from the line found in 1.14. The tape shall extend from the bottom of the bumper to the front edge of the windshield. (Figure 28D)

2. Barrier Targeting

2.1 Fix two stationary targets D1 and D2 to the barrier as shown in the Figure 28A. One target is in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy. The other is in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy

2.2 Targets D1 and D2 are on a rectangular panel.

2.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted on the sides of the rectangular panel away from the longitudinal centerline of the vehicle. The center of each circular target is 100 mm from the one next to it.

Distance between circular targets on D1 (mm): 100 mm
Distance between circular targets on D2 (mm): 100 mm

3. FMVSS 208 Dummy Targeting Requirements

3.1 Place a circular target with black and yellow quadrants on both sides of the driver dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).

3.2 Place a circular target with black and yellow quadrants on both sides of the passenger dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).

3.3 Place a circular target with black and yellow quadrants on the outboard shoulder of the driver dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.

3.4 Place a circular target with black and yellow quadrants on the outboard shoulder of the passenger dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.

4. FMVSS 204 Targeting Requirements

4.1 Is an FMVSS 204 indicant test ordered on the “COTR Vehicle Work Order?”

Yes, continue with this form.

X No, this form is complete.

4.2 Resection panel (Figure 28C)

4.2.1 The panel deviates no more than 6 mm from perfect flatness when suspended vertically

4.2.2 The 8 targets on the panel are circular targets at least 90 mm in diameter and with black and yellow quadrants.

4.2.3 The center of each of the 4 outer targets are placed within 1 mm of the corners of a square measuring 914 mm on each side.

4.2.4 Locate another square with 228 mm sides and with the center of this square coincident with the center of the 914 mm square.

4.2.5 The center of the 4 inner targets are placed at the midpoints of each of the 228 mm sides.
4.3 Place a circular target at least 90 mm in diameter and with black and yellow quadrants on a material (cardboard, metal, etc.) that can be taped to the top of the steering column.

4.4 Tape the target from 4.3 to the top of the steering column in a manner that does not interfere with the movement of the steering column in a crash.

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 8/16/05
REFERENCE PHOTO TARGETS

CONCRETE BARRIER

A1

B

C1

C2

MONORAIL

COVERED PHOTO PIT

LEFT SIDE VIEW
RESECTION PANEL TARGETING ALIGNMENT

CAR TOP TARGETS A1 & A2

RESECTION CONTROL POINTS PANEL

STEERING COLUMN TARGET B

TEST RUN STEERING COLUMN CAMERA VIEW OF TYPICAL TIME ZERO VEHICLE POSITION

LEFT SIDE VIEW
PRE-RUN STEERING COLUMN HIGH SPEED CAMERA VIEW

LEFT SIDE VIEW

914 mm
## DATA SHEET 33
### CAMERA LOCATIONS

<table>
<thead>
<tr>
<th>CAMERA NO.</th>
<th>VIEW</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
<th>LENS (mm)</th>
<th>SPEED (fps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Real Time Left Side View</td>
<td></td>
<td></td>
<td>13</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Left Side View (Barrier face to front seat backs)</td>
<td>1150</td>
<td>-5270</td>
<td>1345</td>
<td>25</td>
<td>1000</td>
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<tr>
<td>3</td>
<td>Left Side View (Driver)</td>
<td>1710</td>
<td>-6740</td>
<td>1225</td>
<td>35</td>
<td>1000</td>
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<tr>
<td>4</td>
<td>Left Side View (B-post aimed toward center of steering wheel)</td>
<td>6805</td>
<td>-5150</td>
<td>2085</td>
<td>50</td>
<td>1000</td>
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<tr>
<td>5</td>
<td>Left Side View (Steering Column)</td>
<td>1930</td>
<td>-6220</td>
<td>1570</td>
<td>24</td>
<td>1000</td>
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<tr>
<td>6</td>
<td>Left Side View (Steering Column)</td>
<td>1900</td>
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<td>1040</td>
<td>25</td>
<td>1000</td>
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<tr>
<td>7</td>
<td>Right Side View (Overall)</td>
<td>2110</td>
<td>7650</td>
<td>1360</td>
<td>24</td>
<td>1000</td>
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<tr>
<td>8</td>
<td>Right Side View (Passenger)</td>
<td>1580</td>
<td>6670</td>
<td>1495</td>
<td>35</td>
<td>1000</td>
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<tr>
<td>9</td>
<td>Right Side View (Angle)</td>
<td>6615</td>
<td>4415</td>
<td>2170</td>
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<td>1000</td>
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<td>Right Side View (Front door)</td>
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<td>11</td>
<td>Front View Windshield</td>
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<td>Front View Driver</td>
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<td>2070</td>
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<td>Front View Passenger</td>
<td>245</td>
<td>315</td>
<td>2060</td>
<td>12.5</td>
<td>1000</td>
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<td>Overhead Barrier Impact View</td>
<td>945</td>
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<tr>
<td>15</td>
<td>Pit Camera Engine View</td>
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<td>-3150</td>
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<td>1000</td>
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<td>3225</td>
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<td>-3150</td>
<td>24</td>
<td>1000</td>
</tr>
</tbody>
</table>

*COORDINATES:
+X - forward of impact plane
+Y - right of monorail centerline
+Z - above ground level

Test Vehicle: 2005 Toyota Corolla
Test Program: FMVSS 208 Compliance
NHTSA No.: C55110
Test Date: 8/16/05
Time: 10:43 am
CAMERA POSITIONS FOR FMVSS 208

- **CONCRETE PAD**
- **CONCRETE BARRIER**
- **COVERED PHOTO PIT**
- **TOW ROAD**
- **TOW ROAD**
- **TOP VIEW**
- **REAL TIME CAMERA**
- **CONCRETE BARRIER**
- **MONORAIL**
- **COVERED PHOTO PIT**
- **LEFT SIDE VIEW**

1. **REAL TIME CAMERA**
2. **CONCRETE BARRIER**
3. **CONCRETE BARRIER**
4. **MONORAIL**
5. **MONORAIL**
6. **MONORAIL**
7. **CONCRETE PAD**
8. **CONCRETE PAD**
9. **CONCRETE PAD**
10. **CONCRETE PAD**
11. **CONCRETE PAD**
12. **CONCRETE PAD**
13. **CONCRETE PAD**
14. **CONCRETE PAD**
15. **CONCRETE PAD**
16. **CONCRETE PAD**
DATA SHEET 34

APPENDIX F
DUMMY POSITIONING PROCEDURES
FOR DRIVER TEST DUMMY CONFORMING TO SUBPART E OF PART 572

Test Vehicle: 2005 Toyota Corolla
Test Program: FMVSS 208 Compliance
Test Technician: Eric Peschman

NHTSA No.: C55110
Test Date: 8/16/05

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
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<td>DRIVER DUMMY:</td>
<td>5th female</td>
</tr>
<tr>
<td>PASSENGER DUMMY:</td>
<td>5th female</td>
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</table>

1. Position the seat’s adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
   X N/A – No lumbar adjustment

2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S20.1.8.2)
   X N/A – No additional support adjustment

3. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S20.1.9.3)
   X N/A – No independent fore-aft seat cushion adjustment

4. Use the seat markings determined during the completion of Data Sheet 14 to set the mid-fore-aft position, full down height position and the seat cushion angle. (S8.1.2)

5. The seat back angle, if adjustable, is set at the manufacturer’s nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)
   _N/A – No seat back angle adjustment
   Manufacturer’s design seat back angle 88.3° on HRP
   Tested seat back angle 88.3° on HRP

6. If adjustable, set the head restraint at the full up and full forward position. Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible. (S8.1.3)
   _N/A – No head restraint adjustment

7. Place any adjustable seat belt anchorages at the vehicle manufacturer’s nominal design position for a 50th percentile adult male occupant (S8.1.3)
   _N/A – No adjustable upper seat belt anchorage
   Manufacturer’s specified anchorage position 2nd Down
   Tested anchorage position 2nd Down (Unbelted Test)

8. Place the adjustable accelerator pedal in the full forward position.
   X N/A – the accelerator pedal is not adjustable.
9. Set the steering wheel hub at the geometric center of the full range of driving positions including any telescoping positions as determined in data sheet 14.

10. Place the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion markings as determined in item 1.18 of Data Sheet 14 and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)

11. Rest the thighs on the seat cushion. (S10.5)

12. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)

.279 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
.309 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
23.1° pelvic angle (20° to 25°)

13. Is the head level within ± 0.5°? (S10.1)
   Yes, go to 14
   No, go to 13.1

   13.1 Adjust the position of the H-point. (S10.1)

   13.2 Is the head level within ± 0.5°? (S10.1)
      Yes, record the following, then go to 15. No, go to 13.3
      horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
      vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
      pelvic angle (20° to 25°) (S10.4.2.2)

   13.3 Adjust the pelvic angle. (S10.1)

   13.4 Is the head level within ± 0.5°? (S10.1)
      Yes, record the following, then go to 14. No, go to 13.5
      horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
      vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
      pelvic angle (20° to 25°) (S10.4.2.2)
13.5 Adjust the neck bracket of the dummy the minimum amount necessary from the non-adjusted "0" setting until the head is level within ± 0.5°. (S10.1)
Record the following, then go to 14
   _____ horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.)
   (S10.4.2.1)
   _____ vertical inches from the point 0.25 below the determined H-point (0.5 inch max.)
   (S10.4.2.1)
   _____ pelvic angle (20° to 25°) (S10.4.2.2)

X 14. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.
10.6" measured distance (10.6 inches) (S10.5)

X 15. Can the right foot be placed on the accelerator?
   X Yes, go to 15.1 and skip 15.2
   __No, go to 15.2

   X 15.1. To the extent practicable keep the right thigh and the leg in a vertical plane (S10.5)
         while resting the foot on the undepressed accelerator pedal with the rearmost point of
         the heel on the floor pan in the plane of the pedal. (S10.6.1.1)

   __ 15.2 Initially set the foot perpendicular to the leg and then place it as far forward as possible
         in the direction of the pedal centerline with the rearmost point of the heel resting on the
         floor pan. (S10.6.1.1)

   __ 15.2.1 Move the adjustable pedal to its most rearward position or until the right foot is flat on
         the pedal, whichever occurs first. (S10.6.1.1)
         __N/A – the accelerator pedal is not adjustable

X 16. Does the vehicle have a foot rest?
   X Yes, go to 16.1
   __No, go to 16.2

   X 16.1. With the left thigh and leg in a vertical plane, place the foot on the foot rest with the heel
         resting on the floor pan. (S10.6.1.2)

   X 16.1.1 Is the left foot elevated above the right foot?
         __Yes, go to 16.1.2 and position the foot off the foot rest
         X No, go to 17

   __ 16.1.2 Check the ONLY one of the following that applies

         __The foot reaches the toeboard without adjusting the foot or leg. To the extent
         practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5) and
         place the foot on the toeboard, skip 16.1.3 (S10.6.1.2)

         __The foot reaches the toeboard but contacts the brake or clutch pedal and must be
         rotated to avoid pedal contact. To the extent practicable keep the left thigh and the leg
         in a vertical longitudinal plane (S10.5) and place the foot on the toeboard. The foot
         was rotated about the leg to avoid pedal contact, skip 16.1.3 (S10.6.1.2)
The foot reaches the toeboard but contacts the brake or clutch pedal and the foot and leg must be rotated to avoid pedal contact. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5) and place the foot on the toeboard. The foot was rotated about the leg and the leg was rotated outboard about the hip the minimum distance necessary to avoid pedal contact, skip 16.1.3 (S10.6.1.2)

N/A – the foot does not reach the toeboard, go to 16.1.3

16.1.3 Check the ONLY one of the following that applies

The foot did not contact the brake or clutch pedal. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5). Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan. (S10.6.1.2)

The foot did contact the brake or clutch pedal and the foot was rotated to avoid contact. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5). Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan and rotate the foot the minimum amount to avoid pedal contact. (S10.6.1.2)

The foot did contact the brake or clutch pedal and the foot was rotated about the leg and the leg was rotated outboard about the hip the minimum distance necessary to avoid pedal contact. Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan and rotate the foot about the leg and the thigh and leg outboard about the hip the minimum distance necessary to avoid pedal contact. (S10.6.1.2)

17. Place the right upper arm adjacent to the torso with the centerline as close to a vertical plane as possible. (S10.2.1)

18. Is the driver seat belt used for this test?
   Yes, continue
   No, go to 19

18.1 Fasten the seat belt around the dummy.

18.2 Remove all slack from the lap belt portion. (S10.9)

18.3 Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)

18.4 Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
   pound load applied

18.5 Is the belt system equipped with a tension-relieving device?
   Yes, continue
   No, go to 19
18.6 Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner’s manual. (S10.9).

X 19. Place the left upper arm adjacent to the torso with the centerline as close to a vertical plane as possible. (S10.2.1)

X 20. Place the right hand with the palm in contact with the steering wheel at the rim’s horizontal centerline and with the thumb over the steering wheel. (S10.3.1)

X 21. Place the left hand with the palm in contact with the steering wheel at the rim’s horizontal centerline and with the thumb over the steering wheel. (S10.3.1)

X 22. Tape the thumb of each hand to the steering wheel by using masking tape with a width of 0.25 inch. The length of the tape shall only be enough to go around the thumb and steering wheel one time.

REMARKS:

I certify that I have read and performed each instruction.

Signature: ___________________________ Date: 8/16/05
APPENDIX F
DUMMY POSITIONING PROCEDURES FOR PASSENGER TEST DUMMY CONFORMING TO SUBPART E OF PART 572

Test Vehicle: 2005 Toyota Corolla
Test Program: FMVSS 208 Compliance
Test Technician: Wayne Dahlke
NHTSA No.: C55110
Test Date: 8/16/05

<table>
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<tr>
<th>IMPACT ANGLE:</th>
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<tr>
<td>BELTED DUMMIES (YES/NO):</td>
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</tr>
<tr>
<td>TEST SPEED:</td>
<td><em>X</em> 32 to 40 kmph</td>
</tr>
<tr>
<td>DRIVER DUMMY:</td>
<td><em>5th</em> female</td>
</tr>
<tr>
<td>PASSENGER DUMMY:</td>
<td><em>5th</em> female</td>
</tr>
</tbody>
</table>

1. The seat is a bench seat for which the adjustments have already been made for the driver and there are no independent adjustments that can be made for the passenger. Go to 7.
2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)
3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S20.1.8.2)
4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S20.1.9.3)
5. Use the seat markings determined during the completion of Data Sheet 14 to set the mid-fore-aft position, full down height position and the seat cushion angle. (S8.1.2)
6. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)
7. If adjustable, set the head restraint at the full up and full forward position. Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible. (S8.1.3)
8. Place any adjustable seat belt anchorages at the vehicle manufacturer’s nominal design position for a 50th percentile adult male occupant (S8.1.3)
   _N/A – No adjustable upper seat belt anchorage

   Manufacturer’s specified anchorage position, 2nd Down
   Tested anchorage position 2nd Down (Unbelted Test)
   _N/A - the seat does not have a fore-aft adjustment

9. Place the dummy in the seat such that the midsagittal plane is coincident with the longitudinal seat cushion markings as determined in item 2.19 of Data Sheet 14 and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)

10. Rest the thighs on the seat cushion. (S10.5)

11. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage.

   Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)
   _123 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.)
   _114 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.)
   _22.8° pelvic angle (20° to 25°)

12. Is the head level within ± 0.5°? (S10.1)
   _Yes, go to 13
   _No, go to 12.1

   12.1 Adjust the position of the H-point. (S10.1 and S10.4.2.1)

   12.2 Is the head level within ± 0.5°? (S10.1)
   _Yes, record the following, then go to 13. _No, go to 12.3
   _horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.)
   _vertical inches from the point 0.25 below the determined H-point (0.5 inch max.)
   _pelvic angle (20° to 25°) (S10.4.2.2)

   12.3 Adjust the pelvic angle. (S10.1)

12.4 Is the head level within ± 0.5°? (S10.1)
   _Yes, record the following, then go to 13. _No, go to 12.5
   _horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.)
   _vertical inches from the point 0.25 below the determined H-point (0.5 inch max.)
   _pelvic angle (20° to 25°) (S10.4.2.2)
12.5 Adjust the neck bracket of the dummy the minimum amount necessary from the non-adjusted "0" setting until the head is level within ± 0.5°. (S10.1)
Record the following, then go to 13 (The neck bracket was moved four notches)
.110 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
.201 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
23.0° pelvic angle (20° to 25°) (S10.4.2.2)

X 13. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches. 10.7" measured distance (10.6 inches) (S10.5)

X 14. Check the only one of the following that applies:

X To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, place the feet on the toeboard with the heels resting on the floor pan as close as possible to the intersection of the floor pan and toeboard.

__The feet cannot be placed flat on the toeboard. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heels resting on the floor pan.

__The vehicle has a wheelhouse projection. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heel resting on the floor pan. Do not set the feet on the wheelhouse projection.

__The vehicle has a wheelhouse projection and the feet cannot be placed on the toeboard. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heel resting on the floor pan. Do not set the feet on the wheelhouse projection.

X 15. Place the left upper arm in contact with the seat back and side of the torso. (S10.2.2)

X 16. Is the passenger seat belt used for this test?
__Yes, continue
X No, go to 17

__16.1 Fasten the seat belt around the dummy.

__16.2 Remove all slack from the lap belt portion. (S10.9)

__16.3 Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)

__16.4 Apply a 2 to 4 pound tension load to the lap belt. (S10.9)___pound load applied
16.5 Is the belt system equipped with a tension relieving device?
   Yes, continue
   No, go to 17

16.6 Introduce the maximum amount of slack into the upper torso that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9). Go to 17.

17. Place the right upper arm in contact with the seat back and side of the torso. (S10.2.2)

18. Place the left hand palm in contact with the outside of the left thigh and the little finger in contact with the seat cushion. (S10.3.2)

19. Place the right hand palm in contact with the outside of the right thigh and the little finger in contact with the seat cushion. (S10.3.2)

REMARKS:

I certify that I have read and performed each instruction.

Signature: ____________________  Date: 8/16/05
DATA SHEET 35

DUMMY MEASUREMENTS

Test Vehicle: 2005 Toyota Corolla
Test Program: FMVSS 208 Compliance
Test Technician: Eric Peschman

NHTSA No.: C55110
Test Date: 8/16/05

DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

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<tr>
<td>CS</td>
<td>Chest to Steering Wheel Hub</td>
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<tr>
<td>HH</td>
<td>Head to Header</td>
</tr>
<tr>
<td>HW</td>
<td>Head to Windshield</td>
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<td>Head to Roof</td>
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<td>Knee to Dash Angle</td>
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<td>Steering Column Angle</td>
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<td>Tibial Angle</td>
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<td>WA</td>
<td>Windshield Angle</td>
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Vertical Longitudinal Planes

Vertical Transverse Plane

Test Vehicle: 2005 Toyota Corolla
Test Program: FMVSS 208 Compliance
Test Technician: Eric Peschman

NHTSA No.: C55110
Test Date: 8/16/05
## DATA SHEET 35
### DUMMY MEASUREMENTS

**Test Vehicle:** 2005 Toyota Corolla  
**Test Program:** FMVSS 208 Compliance  
**Test Technician:** Eric Peschman  
**NHTSA No.:** C55110  
**Test Date:** 8/16/05

### TEST DUMMY POSITION MEASUREMENTS

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SEAT BELT POSITIONING DATA

DUMMY'S CENTERLINE

SHOULDER BELT PORTION

TBI

'D' RING

1/8" THICK ALUMINUM PLATE

EMERGENCY LOCKING RETRACTOR

OUTBOARD ANCHORAGE

INBOARD ANCHORAGE

FLOORPAN

BUCKLE ASSEMBLY

MALE BLADE

REEL

LAP BELT PORTION

FRONT VIEW OF DUMMY

SEAT BELT POSITIONING MEASUREMENTS

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<th>Driver</th>
<th>Passenger</th>
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<td>N/A</td>
</tr>
<tr>
<td>PBL - To surface of reference to belt lower edge</td>
<td>mm</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
# DATA SHEET 36
## CRASH TEST

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>No</td>
</tr>
<tr>
<td>TEST SPEED:</td>
<td>X 32 to 40 kmph</td>
</tr>
<tr>
<td>DRIVER DUMMY:</td>
<td>__ 5th female</td>
</tr>
<tr>
<td>PASSENGER DUMMY:</td>
<td>__ 5th female</td>
</tr>
</tbody>
</table>

1. Vehicle underbody painted
2. The speed measuring devices are in place and functioning.
3. The speed measuring devices are _1.0_ m from the barrier (spec. 1.5m) and _30_ cm from the barrier (spec. is 30 cm)
4. Convertible top is in the closed position.
5. Instrumentation and wires are placed so the motion of the dummies during impact is not affected.
6. Tires inflated to pressure on tire placard or if it does not have a tire placard because it is not a passenger car, then inflated to the tire pressure specified in the owner information.

| 210 kpa front left tire | 210 kpa specified on tire placard or in owner information |
| 210 kpa front right tire | 210 kpa specified on tire placard or in owner information |
| 210 kpa rear left tire | 210 kpa specified on tire placard or in owner information |
| 210 kpa rear right tire | 210 kpa specified on tire placard or in owner information |

7. Time zero contacts on barrier in place.
8. Pre test zero and shunt calibration adjustments performed and recorded
9. Dummy temperature meets requirements of section 12.2 of the test procedure.
10. Vehicle hood closed and latched
11. Transmission placed in neutral
12. Parking brake off
13. Ignition in the ON position
14. Doors closed and latched but not locked
15. Posttest zero and shunt calibration checks performed and recorded
16. Actual test speed _39.9_ kmph
17. Vehicle rebound from the barrier _123_ cm
18. Describe whether the doors open after the test and what method is used to open the doors.

| Left Front Door: Door remained closed and latched; Door opened without tools |
| Right Front Door: Door remained closed and latched; Door opened without tools |
| Left Rear Door: Door remained closed and latched; Door opened without tools |
| Right Rear Door: Door remained closed and latched; Door opened without tools |

Test Vehicle: 2005 Toyota Corolla
Test Program: FMVSS 208 Compliance
Test Technician: Eric Peschman
NHTSA No.: C55110
Test Date: 8/16/05

Test Vehicle:
Test Program:
Test Technician:
Test Date:
19. Describe the contact points of the dummy with the interior of the vehicle.

Driver Dummy: Head to Windshield, Air Bag and Headrest; Chest to Air Bag; Knees to Knee Bolster and Steering Column

Passenger Dummy: Head to Windshield, Air Bag, and Headrest; Chest to Air Bag; Knees to Glove Box and Dash

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]
Date: 8/16/05
<table>
<thead>
<tr>
<th>Test Vehicle</th>
<th>2005 Toyota Corolla</th>
<th>NHTSA No.</th>
<th>C55110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Program</td>
<td>FMVSS 208 Compliance</td>
<td>Test Date</td>
<td>8/16/05</td>
</tr>
<tr>
<td>Test Technician</td>
<td>Nick Kosinski</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMPACT ANGLE:</td>
<td>Zero Degrees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TEST SPEED:</td>
<td>X 32 to 40 kmph, 0 to 48 kmph, 0 to 56 kmph</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRIVER DUMMY:</td>
<td>_ 5th female, X 50th male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PASSENGER DUMMY:</td>
<td>_ 5th female, X 50th male</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vehicle Year/Make/Model/Body Style: 2005 Toyota Corolla Passenger Car

<table>
<thead>
<tr>
<th>VIN:</th>
<th>JTDBR32E652050860</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheelbase:</td>
<td>2605 mm</td>
</tr>
<tr>
<td>Build Date:</td>
<td>06/04</td>
</tr>
<tr>
<td>Vehicle Size Category:</td>
<td>3</td>
</tr>
<tr>
<td>Test Weight:</td>
<td>1364.5 kg</td>
</tr>
<tr>
<td>Front Overhang:</td>
<td>915 mm</td>
</tr>
<tr>
<td>Overall Width:</td>
<td>1698 mm</td>
</tr>
<tr>
<td>Overall Length Center:</td>
<td>4497 mm</td>
</tr>
</tbody>
</table>

Accelerometer Data

<table>
<thead>
<tr>
<th>Location:</th>
<th>As per measurements on Data Sheet 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linearity:</td>
<td>&gt;99.9%</td>
</tr>
<tr>
<td>Integration Algorithm:</td>
<td>Trapezoidal</td>
</tr>
<tr>
<td>Vehicle Impact Speed:</td>
<td>39.9 kmph</td>
</tr>
<tr>
<td>Time of Separation:</td>
<td>97.0 ms</td>
</tr>
<tr>
<td>Velocity Change:</td>
<td>44.3 kmph</td>
</tr>
</tbody>
</table>
CRUSH PROFILE

Collision Deformation Classification: 12FDEW6
Midpoint of Damage: Vehicle Longitudinal Centerline
Damage Region Length (mm): 1530
Impact Mode: Frontal Barrier

<table>
<thead>
<tr>
<th>No.</th>
<th>Measurement Description</th>
<th>Units</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Crush zone 1 at left side</td>
<td>mm</td>
<td>4302</td>
<td>4064</td>
<td>238</td>
</tr>
<tr>
<td>C2</td>
<td>Crush zone 2 at left side</td>
<td>mm</td>
<td>4427</td>
<td>4094</td>
<td>333</td>
</tr>
<tr>
<td>C3</td>
<td>Crush zone 3 at left side</td>
<td>mm</td>
<td>4481</td>
<td>4075</td>
<td>406</td>
</tr>
<tr>
<td>C4</td>
<td>Crush zone 4 at right side</td>
<td>mm</td>
<td>4482</td>
<td>4058</td>
<td>424</td>
</tr>
<tr>
<td>C5</td>
<td>Crush zone 5 at right side</td>
<td>mm</td>
<td>4425</td>
<td>4089</td>
<td>336</td>
</tr>
<tr>
<td>C6</td>
<td>Crush zone 6 at right side</td>
<td>mm</td>
<td>4295</td>
<td>4075</td>
<td>220</td>
</tr>
</tbody>
</table>

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 8/16/05
### DATA SHEET 39
#### WINDSHIELD MOUNTING (FMVSS 212)

**Test Vehicle:** 2005 Toyota Corolla  
**Test Program:** FMVSS 208 Compliance  
**Test Technician:** Nick Kosinski  
**NHTSA No.:** C55110  
**Test Date:** 8/16/05

<table>
<thead>
<tr>
<th>IMPACT ANGLE:</th>
<th>Zero Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELTED DUMMIES (YES/NO):</td>
<td>No</td>
</tr>
<tr>
<td>TEST SPEED:</td>
<td>X 32 to 40 kmph, 0 to 48 kmph, 0 to 56 kmph</td>
</tr>
<tr>
<td>DRIVER DUMMY:</td>
<td>_ 5th female, X 50th male</td>
</tr>
<tr>
<td>PASSENGER DUMMY:</td>
<td>_ 5th female, X 50th male</td>
</tr>
</tbody>
</table>

1. **Pre-Crash**

   1.1 Describe from visual inspection how the windshield is mounted and describe any trim material.
   
   - Retained with glue
   - Rubber trim

   1.2 Mark the longitudinal centerline of the windshield

   1.3 Measure pre-crash A, B, and C for the left side and record in the chart below.

   1.4 Measure pre-crash C, D, and E for the right side and record in the chart below.

   1.5 Measure from the edge of the retainer or molding to the edge of the windshield.
   
   - Dimension G (mm): 15 mm

2. **Post Crash**

   2.1 Can a single thickness of copier type paper (as small a piece as necessary) slide between the windshield and the vehicle body?
   
   - X No – Pass. Skip to the table of measurements, complete it by repeating the pre-crash measurements in the post crash column, and calculate the retention percentage, which will be 100%.
   
   - Yes, go to 2.2

   2.2 Visibly mark the beginning and end of the portions of the periphery where the paper slides between the windshield and the vehicle body.

   2.3 Measure and record post-crash A, B, C, D, E, and F such that the measurements do not include any of the parts of the windshield where the paper slides between the windshield and the vehicle body.

   2.4 Calculate and record the percent retention for the right and left side of the windshield.

   2.5 Is total right side percent retention less than 75%?
   
   - Yes, Fail
   - No, Pass

   2.6 Is total left side percent retention less than 75%?
   
   - Yes, Fail
   - No, Pass
## WINDSHIELD RETENTION MEASUREMENTS

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Pre-Crash (mm)</th>
<th>Post-Crash (mm)</th>
<th>Percent Retention (Post-Test + Pre-Crash)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>541</td>
<td>541</td>
<td>100%</td>
</tr>
<tr>
<td>B</td>
<td>836</td>
<td>836</td>
<td>100%</td>
</tr>
<tr>
<td>C</td>
<td>693</td>
<td>693</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>2070</td>
<td>2070</td>
<td>100%</td>
</tr>
<tr>
<td>D</td>
<td>541</td>
<td>541</td>
<td>100%</td>
</tr>
<tr>
<td>E</td>
<td>836</td>
<td>836</td>
<td>100%</td>
</tr>
<tr>
<td>F</td>
<td>693</td>
<td>693</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>2070</td>
<td>2070</td>
<td>100%</td>
</tr>
</tbody>
</table>

Indicate area of mounting failure. NONE

### FRONT VIEW OF WINDSHIELD

INDICATE WIDTH OF MOLDING

**REMARKS:**

I certify that I have read and performed each instruction.

Signature: [Signature]

Date: 8/16/05
1. Place a 165 mm diameter rigid sphere, with a mass of 6.8 kg on the instrument panel so that it is simultaneously touching the instrument panel and the windshield. (571.219 S6.1(a))

2. Roll the sphere from one side of the windshield to the other while marking on the windshield where the sphere contacts the windshield. (571.219 S6.1(b))

3. From the outermost contactable points on the windshield draw a horizontal line to the edges of the windshield. (571.219 S6.1(b))

4. Draw a line on the inner surface of the windshield that is 13 mm below the line determined in items 2 and 3

5. After the crash test, record any points where a part of the exterior of the vehicle has marked, penetrated, or broken the windshield.

Provide all dimensions necessary to reproduce the protected area.
WINDSHIELD DIMENSIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>mm</td>
<td>1082</td>
</tr>
<tr>
<td>B</td>
<td>mm</td>
<td>504</td>
</tr>
<tr>
<td>C</td>
<td>mm</td>
<td>1385</td>
</tr>
<tr>
<td>D</td>
<td>mm</td>
<td>836</td>
</tr>
<tr>
<td>E</td>
<td>mm</td>
<td>551</td>
</tr>
<tr>
<td>F</td>
<td>mm</td>
<td>500</td>
</tr>
</tbody>
</table>

AREA OF PROTECTED ZONE FAILURES:

B. Provide coordinates of the area that the protected zone was penetrated more than 0.25 inches by a vehicle component other than one which is normally in contact with the windshield.

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td></td>
</tr>
</tbody>
</table>

C. Provide coordinates of the area beneath the protected zone template that the inner surface of the windshield was penetrated by a vehicle component.

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td></td>
</tr>
</tbody>
</table>

REMARKS:

I certify that I have read and performed each instruction.

Signature: [Signature]  Date: 8/16/05
**DATA SHEET 41**  
**FUEL SYSTEM INTEGRITY (FMVSS 301)**

<table>
<thead>
<tr>
<th>Test Vehicle:</th>
<th>2005 Toyota Corolla</th>
<th>NHTSA No.:</th>
<th>C55110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Program:</td>
<td>FMVSS 208 Compliance</td>
<td>Test Date:</td>
<td>8/16/05</td>
</tr>
<tr>
<td>Test Technician:</td>
<td>Eric Peschman</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| TYPE OF IMPACT: | 25 mph Unbelted Flat Frontal |

**Stoddard Solvent Spillage Measurements**

A. From impact until vehicle motion ceases: 0.0 grams  
(Maximum Allowable = 28 grams)

B. For the 5 minute period after motion ceases: 0.0 grams  
(Maximum Allowable = 142 grams)

C. For the following 25 minutes: 0.0 grams  
(Maximum Allowable = 28 grams/minute)

D. Spillage: NONE

**REMARKS:** NO SPILLAGE
DATA SHEET NO. 41
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2005 Toyota Corolla  
Test Program: FMVSS 208 Compliance  
NHTSA No.: C55110  
Test Date: 8/16/05

1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent spillage locations: The post test FMVSS 301 rollover was not conducted at direction of the COTR.

<table>
<thead>
<tr>
<th>Test Phase</th>
<th>Rotation Time (sec.)</th>
<th>Hold Time (sec.)</th>
<th>Spillage (grams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0° to 90°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90° to 180°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>180° to 270°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>270° to 360°</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX A

CRASH TEST DATA
### TABLE OF DATA PLOTS

<table>
<thead>
<tr>
<th>Figure No.</th>
<th>Description</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Driver Head X Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>2</td>
<td>Driver Head Y Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>3</td>
<td>Driver Head Z Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>4</td>
<td>Driver Head Resultant Acceleration vs. Time</td>
<td>A-1</td>
</tr>
<tr>
<td>5</td>
<td>Driver Head X Velocity vs. Time</td>
<td>A-2</td>
</tr>
<tr>
<td>6</td>
<td>Driver Head Y Velocity vs. Time</td>
<td>A-2</td>
</tr>
<tr>
<td>7</td>
<td>Driver Head Z Velocity vs. Time</td>
<td>A-2</td>
</tr>
<tr>
<td>8</td>
<td>Driver Neck Force X vs. Time</td>
<td>A-3</td>
</tr>
<tr>
<td>9</td>
<td>Driver Neck Force Y vs. Time</td>
<td>A-3</td>
</tr>
<tr>
<td>10</td>
<td>Driver Neck Force Z vs. Time</td>
<td>A-3</td>
</tr>
<tr>
<td>11</td>
<td>Driver Neck Force Resultant vs. Time</td>
<td>A-3</td>
</tr>
<tr>
<td>12</td>
<td>Driver Neck Moment X vs. Time</td>
<td>A-4</td>
</tr>
<tr>
<td>13</td>
<td>Driver Neck Moment Y vs. Time</td>
<td>A-4</td>
</tr>
<tr>
<td>14</td>
<td>Driver Neck Moment Z vs. Time</td>
<td>A-4</td>
</tr>
<tr>
<td>15</td>
<td>Driver Neck Moment Resultant vs. Time</td>
<td>A-4</td>
</tr>
<tr>
<td>16</td>
<td>Driver Chest X Acceleration vs. Time</td>
<td>A-5</td>
</tr>
<tr>
<td>17</td>
<td>Driver Chest Y Acceleration vs. Time</td>
<td>A-5</td>
</tr>
<tr>
<td>18</td>
<td>Driver Chest Z Acceleration vs. Time</td>
<td>A-5</td>
</tr>
<tr>
<td>19</td>
<td>Driver Chest Resultant Acceleration vs. Time</td>
<td>A-5</td>
</tr>
<tr>
<td>20</td>
<td>Driver Chest X Velocity vs. Time</td>
<td>A-6</td>
</tr>
<tr>
<td>21</td>
<td>Driver Chest Y Velocity vs. Time</td>
<td>A-6</td>
</tr>
<tr>
<td>22</td>
<td>Driver Chest Z Velocity vs. Time</td>
<td>A-6</td>
</tr>
<tr>
<td>23</td>
<td>Driver Chest Displacement vs. Time</td>
<td>A-6</td>
</tr>
<tr>
<td>24</td>
<td>Driver Left Femur Force vs. Time</td>
<td>A-7</td>
</tr>
<tr>
<td>25</td>
<td>Driver Right Femur Force vs. Time</td>
<td>A-7</td>
</tr>
<tr>
<td>26</td>
<td>Passenger Head X Acceleration vs. Time</td>
<td>A-8</td>
</tr>
<tr>
<td>27</td>
<td>Passenger Head Y Acceleration vs. Time</td>
<td>A-8</td>
</tr>
<tr>
<td>28</td>
<td>Passenger Head Z Acceleration vs. Time</td>
<td>A-8</td>
</tr>
<tr>
<td>29</td>
<td>Passenger Head Resultant Acceleration vs. Time</td>
<td>A-8</td>
</tr>
</tbody>
</table>
Figure No. 60.  Passenger Occipital Condyle Moment vs. Time  A-17
Figure No. 61.  Left Rear Seat Crossmember X Acceleration vs. Time  A-18
Figure No. 62.  Left Rear Seat Crossmember X Velocity vs. Time  A-18
Figure No. 63.  Right Rear Seat Crossmember X Acceleration vs. Time  A-18
Figure No. 64.  Right Rear Seat Crossmember X Velocity vs. Time  A-18
Figure No. 65.  Top of Engine X Acceleration vs. Time  A-19
Figure No. 66.  Top of Engine X Velocity vs. Time  A-19
Figure No. 67.  Bottom of Engine X Acceleration vs. Time  A-19
Figure No. 68.  Bottom of Engine X Velocity vs. Time  A-19
Figure No. 69.  Left Brake Caliper X Acceleration vs. Time  A-20
Figure No. 70.  Left Brake Caliper X Velocity vs. Time  A-20
Figure No. 71.  Right Brake Caliper X Acceleration vs. Time  A-20
Figure No. 72.  Right Brake Caliper X Velocity vs. Time  A-20
Figure No. 73.  Instrument Panel X Acceleration vs. Time  A-21
Figure No. 74.  Instrument Panel X Velocity vs. Time  A-21
Figure No. 75.  Trunk Z Acceleration vs. Time  A-21
Figure No. 76.  Trunk Z Velocity vs. Time  A-21
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

**DRIVER HEAD X (G's) vs TIME (ms)**
- Max: 1.8 G's
- Tmax: 300.0 ms
- Min: -55.8 G's
- Tmin: 107.9 ms
- CFC 1000

**DRIVER HEAD Y (G's) vs TIME (ms)**
- Max: 28.9 G's
- Tmax: 107.9 ms
- Min: -3.3 G's
- Tmin: 128.8 ms
- CFC 1000

**DRIVER HEAD Z (G's) vs TIME (ms)**
- Max: 24.0 G's
- Tmax: 98.2 ms
- Min: -5.1 G's
- Tmin: 68.0 ms
- CFC 1000

**DRIVER HEAD Resultant (G's) vs TIME (ms)**
- Max: 65.1 G's
- Tmax: 107.9 ms
- Min: 0.0 G's
- Tmin: 0.0 ms
- CFC 1000
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

DRIVER HEAD X Velocity (kph) vs TIME (ms)
Max: 40.3 kph
Tmax: 53.9 ms
Min: -13.4 kph
Tmin: 215.8 ms
CFC 180

DRIVER HEAD Y Velocity (kph) vs TIME (ms)
Max: 19.4 kph
Tmax: 215.8 ms
Min: 0.0 kph
Tmin: 0.0 ms
CFC 180

DRIVER HEAD Z Velocity (kph) vs TIME (ms)
Max: 19.9 kph
Tmax: 264.7 ms
Min: -2.9 kph
Tmin: 79.7 ms
CFC 180
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

DRIVER NECK FX (N) vs TIME (ms)
Max: 1015.2 N
Tmax: 98.1 ms
Min: -193.8 N
Tmin: 165.6 ms
CFC 1000

DRIVER NECK FY (N) vs TIME (ms)
Max: 116.8 N
Tmax: 163.8 ms
Min: -466.0 N
Tmin: 115.7 ms
CFC 1000

DRIVER NECK FZ (N) vs TIME (ms)
Max: 735.6 N
Tmax: 94.1 ms
Min: -3075.6 N
Tmin: 115.8 ms
CFC 1000

DRIVER NECK FResultant (N) vs TIME (ms)
Max: 3212.9 N
Tmax: 115.7 ms
Min: 1.0 N
Tmin: 0.0 ms
CFC 1000
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

DRIVER NECK MX (Nm) vs TIME (ms)
- Max: 23.8 Nm
- Tmax: 121.2 ms
- Min: -2.6 Nm
- Tmin: 61.4 ms
- CFC 600

DRIVER NECK MY (Nm) vs TIME (ms)
- Max: 67.4 Nm
- Tmax: 97.5 ms
- Min: -6.1 Nm
- Tmin: 254.9 ms
- CFC 600

DRIVER NECK MZ (Nm) vs TIME (ms)
- Max: 8.0 Nm
- Tmax: 184.9 ms
- Min: -15.8 Nm
- Tmin: 121.6 ms
- CFC 600

DRIVER NECK MResultant (Nm) vs TIME (ms)
- Max: 68.5 Nm
- Tmax: 97.6 ms
- Min: 0.0 Nm
- Tmin: 0.0 ms
- CFC 600
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

Max: 4.1 G's
Tmax: 287.3 ms
Min: -36.5 G's
Tmin: 98.1 ms
CFC 180

Max: 5.7 G's
Tmax: 106.6 ms
Min: -2.0 G's
Tmin: 75.6 ms
CFC 180

Max: 16.5 G's
Tmax: 110.9 ms
Min: -8.2 G's
Tmin: 66.4 ms
CFC 180

Max: 38.7 G's
Tmax: 98.5 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 180
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

DRIVER CHEST X Velocity (kph) vs TIME (ms)
Max: 39.9 kph
Tmax: 0.0 ms
Min: -12.1 kph
Tmin: 134.6 ms
CFC 180

DRIVER CHEST Y Velocity (kph) vs TIME (ms)
Max: 2.9 kph
Tmax: 150.5 ms
Min: -1.0 kph
Tmin: 83.2 ms
CFC 180

DRIVER CHEST Z Velocity (kph) vs TIME (ms)
Max: 11.8 kph
Tmax: 259.0 ms
Min: -7.4 kph
Tmin: 83.8 ms
CFC 180

DRIVER CHEST DISPLACEMENT (mm) vs TIME (ms)
Max: 0.1 mm
Tmax: 22.2 ms
Min: -23.6 mm
Tmin: 106.8 ms
CFC 600
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

Max: 393.0 N
Tmax: 208.4 ms
Min: -4381.6 N
Tmin: 84.7 ms
CFC 600

Max: 337.8 N
Tmax: 128.8 ms
Min: -3291.6 N
Tmin: 72.7 ms
CFC 600
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

PASSENGER HEAD X (G's) vs TIME (ms)
Max: 2.0 G's
Tmax: 126.5 ms
Min: -64.8 G's
Tmin: 96.6 ms
CFC 1000

PASSENGER HEAD Y (G's) vs TIME (ms)
Max: 6.5 G's
Tmax: 130.4 ms
Min: -16.6 G's
Tmin: 96.2 ms
CFC 1000

PASSENGER HEAD Z (G's) vs TIME (ms)
Max: 30.3 G's
Tmax: 95.3 ms
Min: -11.3 G's
Tmin: 126.3 ms
CFC 1000

PASSENGER HEAD Resultant (G's) vs TIME (ms)
Max: 70.3 G's
Tmax: 96.6 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 1000
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

**PASSENGER HEAD X Velocity (kph) vs TIME (ms)**

- Max: 39.9 kph
- Tmax: 0.0 ms
- Min: -67.5 kph
- Tmin: 300.0 ms
- CFC 180

**PASSENGER HEAD Y Velocity (kph) vs TIME (ms)**

- Max: 0.1 kph
- Tmax: 56.2 ms
- Min: -8.6 kph
- Tmin: 112.9 ms
- CFC 180

**PASSENGER HEAD Z Velocity (kph) vs TIME (ms)**

- Max: 6.9 kph
- Tmax: 118.1 ms
- Min: -1.2 kph
- Tmin: 75.8 ms
- CFC 180
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

**PASSENGER NECK FX (N) vs TIME (ms)**
- Max: 1795.6 N
- Tmax: 102.9 ms
- Min: -118.0 N
- Tmin: 270.8 ms

**PASSENGER NECK FY (N) vs TIME (ms)**
- Max: 575.6 N
- Tmax: 122.0 ms
- Min: -124.5 N
- Tmin: 79.3 ms

**PASSENGER NECK FZ (N) vs TIME (ms)**
- Max: 149.7 N
- Tmax: 203.7 ms
- Min: -3918.5 N
- Tmin: 98.5 ms

**PASSENGER NECK FResultant (N) vs TIME (ms)**
- Max: 4302.1 N
- Tmax: 99.2 ms
- Min: 0.6 N
- Tmin: 0.0 ms
Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

**2005 TOYOTA COROLLA (C55110)**

**PASSENGER NECK MX (Nm) vs TIME (ms)**
- Max: 19.9 Nm
- Tmax: 128.0 ms
- Min: -18.5 Nm
- Tmin: 101.6 ms

**PASSENGER NECK MY (Nm) vs TIME (ms)**
- Max: 159.1 Nm
- Tmax: 99.6 ms
- Min: -21.2 Nm
- Tmin: 138.0 ms

**PASSENGER NECK MZ (Nm) vs TIME (ms)**
- Max: 23.9 Nm
- Tmax: 128.5 ms
- Min: -4.4 Nm
- Tmin: 224.1 ms

**PASSENGER NECK MResultant (Nm) vs TIME (ms)**
- Max: 160.5 Nm
- Tmax: 99.6 ms
- Min: 0.0 Nm
- Tmin: 0.0 ms

CFC 600
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

PASSENGER CHEST X (G's) vs TIME (ms)
Max: 1.5 G's
Tmax: 164.3 ms
Min: -19.6 G's
Tmin: 87.6 ms
CFC 180

PASSENGER CHEST Y (G's) vs TIME (ms)
Max: 1.5 G's
Tmax: 166.0 ms
Min: -5.2 G's
Tmin: 102.9 ms
CFC 180

PASSENGER CHEST Z (G's) vs TIME (ms)
Max: 19.7 G's
Tmax: 97.2 ms
Min: -4.8 G's
Tmin: 64.4 ms
CFC 180

PASSENGER CHEST Resultant (G's) vs TIME (ms)
Max: 26.0 G's
Tmax: 97.4 ms
Min: 0.0 G's
Tmin: 0.0 ms
CFC 180
**25MPH FRONTAL UNBELTED**

**2005 TOYOTA COROLLA (C55110)**

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

**PASSENGER CHEST X Velocity (kph) vs TIME (ms)**

Max: 39.9 kph
Tmax: 7.2 ms
Min: -2.2 kph
Tmin: 216.2 ms
CFC 180

**PASSENGER CHEST Y Velocity (kph) vs TIME (ms)**

Max: 0.4 kph
Tmax: 77.5 ms
Min: -3.2 kph
Tmin: 139.8 ms
CFC 180

**PASSENGER CHEST Z Velocity (kph) vs TIME (ms)**

Max: 15.3 kph
Tmax: 300.0 ms
Min: -3.6 kph
Tmin: 77.3 ms
CFC 180

**PASSENGER CHEST DISPLACEMENT (mm) vs TIME (ms)**

Max: 1.1 mm
Tmax: 51.9 ms
Min: -9.0 mm
Tmin: 97.6 ms
CFC 600
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)
Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

PASSENGER LEFT FEMUR (N) vs TIME (ms)
Max: 253.5 N
Tmax: 269.0 ms
Min: -2989.8 N
Tmin: 53.1 ms
CFC 600

PASSENGER RIGHT FEMUR (N) vs TIME (ms)
Max: 102.3 N
Tmax: 25.3 ms
Min: -5175.1 N
Tmin: 94.5 ms
CFC 600
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

Drv. nij (NTF) () vs TIME (ms)
Max: 0.3
Tmax: 94.8 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600

Drv. nij (NTE) () vs TIME (ms)
Max: 0.1
Tmax: 141.8 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600

Drv. nij (NCF) () vs TIME (ms)
Max: 0.5
Tmax: 112.5 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600

Drv. nij (NCE) () vs TIME (ms)
Max: 0.0
Tmax: 265.6 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600
25MPH FRONTAL UNBELTED  
2005 TOYOTA COROLLA (C55110)  
Test Date: 08/16/05  
Speed: 24.8 mph (39.9 km/h)

Pass. nij (NTF) (\(\cdot\)) vs TIME (ms)
Max: 0.1
Tmax: 111.6 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600

Pass. nij (NTE) (\(\cdot\)) vs TIME (ms)
Max: 0.1
Tmax: 155.3 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600

Pass. nij (NCF) (\(\cdot\)) vs TIME (ms)
Max: 1.0
Tmax: 99.2 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600

Pass. nij (NCE) (\(\cdot\)) vs TIME (ms)
Max: 0.2
Tmax: 171.9 ms
Min: 0.0
Tmin: 0.0 ms
CFC 600
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

Drv. Occipital Condyle Moment (Nm) vs TIME (ms)
Max: 49.6 Nm
Tmax: 96.7 ms
Min: -6.6 Nm
Tmin: 246.2 ms
CFC 600

Pass. Occipital Condyle Moment (Nm) vs TIME (ms)
Max: 128.2 Nm
Tmax: 99.6 ms
Min: -27.8 Nm
Tmin: 137.9 ms
CFC 600
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

LEFT REAR SEAT CROSSMEMBER X (G's) vs TIME (ms)
Max: 5.1 G's
Tmax: 14.2 ms
Min: -28.4 G's
Tmin: 53.2 ms
CFC 60

LEFT REAR SEAT CROSSMEMBER X Velocity (kph) vs TIME (ms)
Max: 39.9 kph
Tmax: 0.0 ms
Min: -4.2 kph
Tmin: 96.6 ms
CFC 180

RIGHT REAR SEAT CROSSMEMBER X (G's) vs TIME (ms)
Max: 5.3 G's
Tmax: 14.7 ms
Min: -27.4 G's
Tmin: 53.5 ms
CFC 60

RIGHT REAR SEAT CROSSMEMBER X Velocity (kph) vs TIME (ms)
Max: 39.9 kph
Tmax: 3.2 ms
Min: -4.5 kph
Tmin: 97.3 ms
CFC 180
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

TOP OF ENGINE X (G's) vs TIME (ms)
Max: 23.2 G's
Tmax: 65.3 ms
Min: -51.2 G's
Tmin: 41.8 ms
CFC 60

TOP OF ENGINE X Velocity (kph) vs TIME (ms)
Max: 39.9 kph
Tmax: 0.0 ms
Min: -1.6 kph
Tmin: 165.9 ms
CFC 180

BOTTOM OF ENGINE X (G's) vs TIME (ms)
Max: 39.3 G's
Tmax: 53.7 ms
Min: -69.2 G's
Tmin: 45.6 ms
CFC 60

BOTTOM OF ENGINE X Velocity (kph) vs TIME (ms)
Max: 39.9 kph
Tmax: 6.4 ms
Min: -4.1 kph
Tmin: 105.2 ms
CFC 180
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

**LEFT BRAKE CALIPER X (G's) vs TIME (ms)**

- Max: 11.9 G's
- Tmax: 134.7 ms
- Min: -37.4 G's
- Tmin: 53.4 ms
- CFC 60

**LEFT BRAKE CALIPER X Velocity (kph) vs TIME (ms)**

- Max: 40.1 kph
- Tmax: 8.2 ms
- Min: -5.9 kph
- Tmin: 103.0 ms
- CFC 180

**RIGHT BRAKE CALIPER X (G's) vs TIME (ms)**

- Max: 6.0 G's
- Tmax: 111.9 ms
- Min: -40.4 G's
- Tmin: 68.4 ms
- CFC 60

**RIGHT BRAKE CALIPER X Velocity (kph) vs TIME (ms)**

- Max: 40.3 kph
- Tmax: 9.7 ms
- Min: -6.7 kph
- Tmin: 102.8 ms
- CFC 180
25MPH FRONTAL UNBELTED
2005 TOYOTA COROLLA (C55110)

Test Date: 08/16/05
Speed: 24.8 mph (39.9 km/h)

INSTRUMENT PANEL X (G's) vs TIME (ms)
Max: 28.3 G's
Tmax: 38.2 ms
Min: -63.2 G's
Tmin: 25.6 ms
CFC 60

INSTRUMENT PANEL X Velocity (kph) vs TIME (ms)
Max: 39.9 kph
Tmax: 0.0 ms
Min: -19.9 kph
Tmin: 300.0 ms
CFC 180

TRUNK Z (G's) vs TIME (ms)
Max: 15.4 G's
Tmax: 23.0 ms
Min: -18.5 G's
Tmin: 18.7 ms
CFC 60

TRUNK Z Velocity (kph) vs TIME (ms)
Max: 1.7 kph
Tmax: 299.3 ms
Min: -2.2 kph
Tmin: 20.2 ms
CFC 180
APPENDIX B

CRASH TEST PHOTOGRAPHS
TABLE OF PHOTOGRAPHS

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Vehicle Certification Label
**TIRE AND LOADING INFORMATION**

**SEATING CAPACITY:** TOTAL 5
   FRONT 2: REAR 3

The combined weight of occupants and cargo should never exceed 390 kg or 860 lb.

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<td>FRONT 210kPa, 30PSI</td>
<td><strong>P195/65R15</strong></td>
<td>AVANT 210kPa, 30PSI</td>
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<td></td>
<td>REAR 210kPa, 30PSI</td>
<td></td>
<td>ARRIÈRE 210kPa, 30PSI</td>
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<tr>
<td><strong>COMPACT SPARE TIRE</strong></td>
<td>COLD TIRE INFLATION PRESSURE</td>
<td><strong>T125/70R16</strong></td>
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<tr>
<td><strong>T125/70R16</strong></td>
<td>420kPa, 60PSI</td>
<td></td>
<td><strong>PRESSION DE GONFLAGE À FROID</strong></td>
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</table>

See owner’s manual for additional information.

12A20

---

**INFORMATION SUR LES PNEUS ET LE CHARGEMENT**

**NOMBRE DE PLACES ASSISES:** TOTAL 5
   AVANT 2: ARRIÈRE 3

Le poids total des occupants et du chargement ne doit jamais être supérieur à 390 kg ou 860 lb.

Pour de plus amples informations, voir le manuel du propriétaire.
Pre-Test Front View of Test Vehicle
Post-Test Front View of Test Vehicle
Pre-Test Left Side View of Test Vehicle
Post-Test Left Side View of Test Vehicle
Post-Test Right Side View of Test Vehicle
Post-Test Left Front Three-Quarter View of Test Vehicle
Post-Test Right Rear Three-Quarter View of Test Vehicle
Pre-Test Left Rear Three-Quarter View of Test Vehicle
Post-Test Left Rear Three-Quarter View of Test Vehicle
Pre-Test Rear View of Test Vehicle
Post-Test Rear View of Test Vehicle
Pre-Test Engine Compartment View
Post-Test Engine Compartment View
Pre-Test Fuel Filler Cap View
C55110
25 MPH FRONTAL UNBELTED
05081601
MGA RESEARCH CORP.
2005 TOYOTA COROLLA
Pre-Test Mid Underbody View
Post-Test Mid Underbody View
Pre-Test Driver Dummy Front View (head position)
Pre-Test Driver Dummy Position Left Side View
Post-Test Driver Dummy Position Left Side View
Pre-Test Driver Dummy Position Left Side View (Door Open)
Post-Test Driver Dummy Seat Position
Post-Test Driver Dummy Feet Position
Post-Test Driver Dummy Head Contact (headrest)
Post-Test Driver Dummy Airbag Contact
Pre-Test Passenger Dummy Front View (head position)
Post-Test Passenger Dummy Front View (head position)
Pre-Test Passenger Dummy Position Right Side View (Door Open)
Post-Test Passenger Dummy Position Right Side View (Door Open)
Pre-Test Passenger Dummy Seat Position
Post-Test Passenger Dummy Seat Position
Pre-Test Passenger Dummy Feet Position
Post-Test Passenger Dummy Feet Position
Pre-Test Passenger Side Knee Bolster View
Post-Test Passenger Dummy Knee Contact
Post-Test Passenger Dummy Airbag Contact
Vehicle Impact
## INSTRUMENTS FOR DRIVER DUMMY NO. 401

<table>
<thead>
<tr>
<th>SERIAL NO.</th>
<th>MANUFACTURER</th>
<th>CALIBRATION DATE</th>
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<tbody>
<tr>
<td>Head X</td>
<td>AGH11</td>
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<td>Head Y</td>
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<td>Head Z</td>
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<td>Neck Load Cell</td>
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<td>Chest Displacement</td>
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## INSTRUMENTS FOR PASSENGER DUMMY NO. 403

<table>
<thead>
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## VEHICLE INSTRUMENTS

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<td>B16-Z07</td>
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<td>Right Rear Seat Crossmember X</td>
<td>B19-Z03</td>
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<td>Top of Engine X</td>
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<tr>
<td>Left Brake Caliper X</td>
<td>B19-Z09</td>
<td>Entran</td>
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<tr>
<td>Right Brake Caliper X</td>
<td>E05-Z26</td>
<td>Entran</td>
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<td>Instrument Panel X</td>
<td>E05-Z24</td>
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<td>Trunk Z</td>
<td>C29-L13</td>
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APPENDIX D

H POINT ATD POSITIONING CCM DATA
DRIVER CCM DATA

TOYOTA COROLLA C55110 8-16-05 TEST DATE

Driver Hpt Oscar Data 8-15-05

<table>
<thead>
<tr>
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<td>HINGE</td>
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Driver Dummy Data 8-16-05

<table>
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<td>STRIKER</td>
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</table>

From APPENDIX F

DUMMY POSITIONING PROCEDURES
FOR DRIVER TEST DUMMY CONFORMING TO SUBPART E OF PART 572

X.12. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage.

Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)

.279 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
7.084 mm = .279 inches

.059 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
7.858 mm = .309 inches

23.1° pelvic angle (20° to 25°)
PASSENGER CCM DATA

TOYOTA COROLLA C55110  8-16-05 TEST DATE

Passenger Hpt Oscar Data 8-15-05

<table>
<thead>
<tr>
<th>Index</th>
<th>Xmm</th>
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<th>Zmm</th>
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<tr>
<td>HPT</td>
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Passenger Dummy Data 8-16-05

<table>
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<tr>
<td>HPT</td>
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</table>

From APPENDIX F
DUMMY POSITIONING PROCEDURES
FOR PASSENGER TEST DUMMY CONFORMING TO SUBPART E OF PART 572

Previous to neck adjustment
X 11. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage.

Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)

- 123 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
- 3.117 mm = .123 inches
- 1.136 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
- 2.888 mm = .114 inches
- 22.8° pelvic angle (20° to 25°)
After neck adjustment of four notches
X 12.5 Adjust the neck bracket of the dummy the minimum amount necessary from the non-adjusted “0” setting until the head is level within ± 0.5°. (S10.1)

Record the following, then go to 13 (The neck bracket was moved four notches)
.110 horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
2.803 mm = .110 inches
.049 vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
5.113 mm = .201 inches
23.0° pelvic angle (20° to 25°) (S10.4.2.2)